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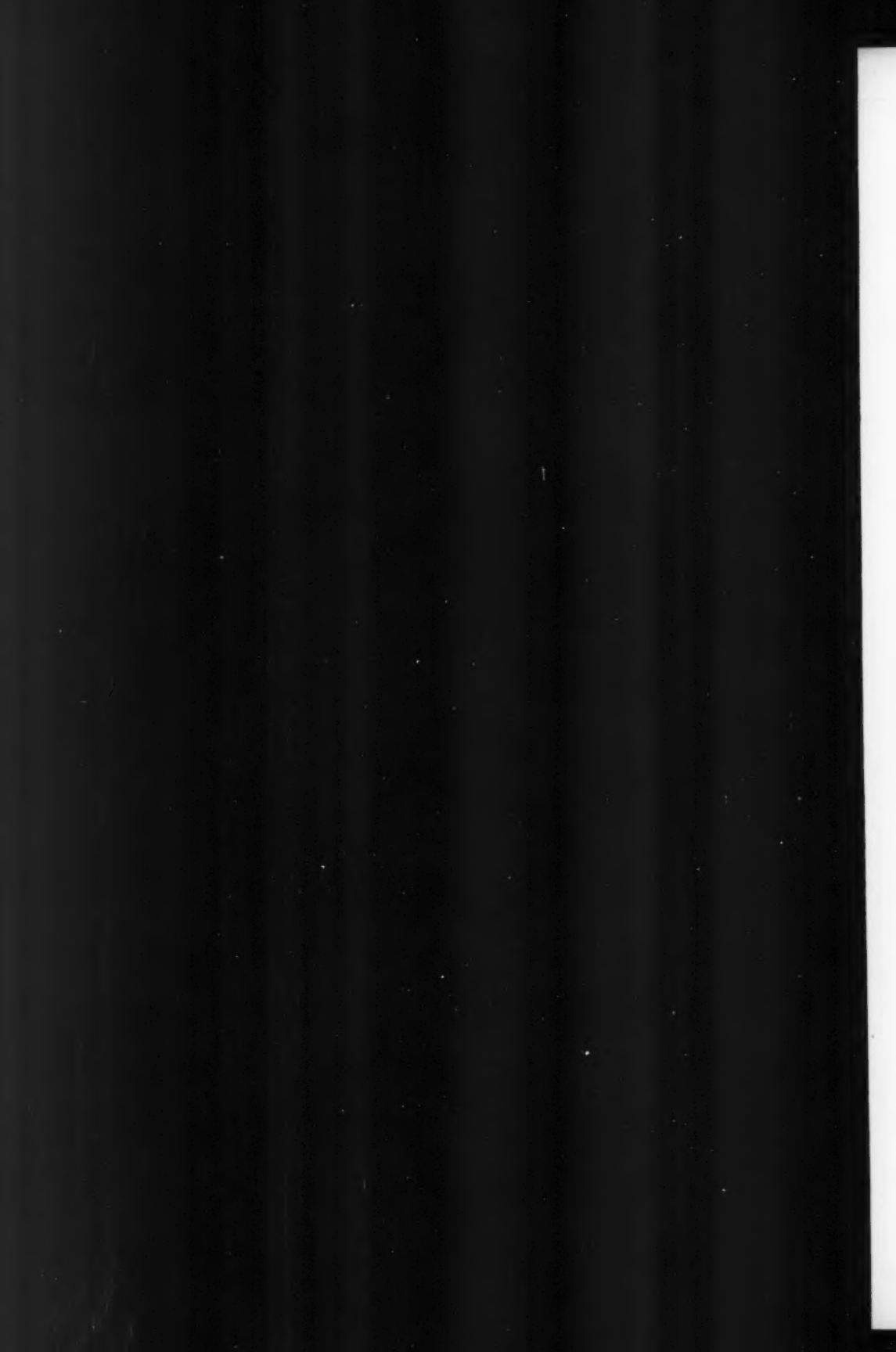


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THE AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." Virg.

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. VIII.—No. 6.]

JUNE, 1879.

[NEW SERIES.

Concentrated Manures a Good Thing and a Blessing.

CONTINUED FROM MAY NO.

Messrs. Editors American Farmer:

My experience in the use of these chemical manures has convinced me that they act better and pay better on rich soils, or when combined with domestic manures. Nevertheless they may be very properly applied to poor land when the main object is to get a stand of clover. On ordinary soils they should be used at long intervals, and always followed by clover. The theory of M. Ville, that soils may be cultivated yearly for an indefinite time by the use of fertilizers, does *not* hold good here. Practice and experience here have shown that after the first year or two the crop begins to fall off, and continues to do so until the fertilizer ceases to have any effect whatever.

An important practical question is now agitating the planting interest of Virginia, and that is: Is it advisable to use these fertilizers the present season on the tobacco crop, in view of present low prices of tobacco? I have given this question much thought, and have consulted some of our most successful planters here, and my most decided opinion is, that they may be used even now profitably on the tobacco crop under favorable conditions. Our true policy at present is to make first-class Virginia tobacco, for if we can do this we can generally get remunerative prices for it. In order to do it, however, we must make the soil rich, plant in time, and cultivate the crop thoroughly. In the use of the fertilizers on the tobacco crop I would advise that they be applied in combination with the domestic manures, which should be spread on the land thickly or thinly in accordance with their quantity and the character of the soil; and then supplemented by an application of some good and reliable fertilizer at the rate of three or four hundred pounds per acre.

Before closing this paper I will add a few thoughts touching the question whether our soils need lime or not. Our most intelligent

farmers differ widely upon this question,—some contending that they do, and others that they do not. Some have experimented with it without observing any effect; whilst others have experienced the most marked results. Lime acts in two ways: First, as direct plant food—for all plants contain lime more or less; and secondly, it acts as a decomposer both of the mineral and organic constituents of the soil. It is generally conceded that so far as plant food is concerned, our soils generally contain enough lime to meet the wants of vegetation. An able writer says: "The addition of lime is not so beneficial from its mere presence in the soil, for generally there is enough for plant food; but its good effect is due chiefly to the chemical changes it causes amongst the substances composing and existing in the soil." "The exact manner in which lime acts upon the soil is not entirely understood; but that it does produce a wonderful effect, and a very beneficial one, is well-known." "It must be borne in mind that lime of itself will not give fertility to a soil. The material upon which it can act must be present, or its greatest effect will be lost." There must be organic matter in the soil, either as decomposing manure or as vegetable mould, upon which it can operate. Lime brings into play the constituents of the soil, and enables the plant to feed upon them, whilst as a salt it forms the food of plants. The richer the soil the better will prove the effect of lime. The poorer the soil the slower and worse the effect. It is owing to this cause that lime has been condemned in many cases, it having been put upon soils where there was nothing for it to operate upon. The effect of lime is long-continued. Its benefits can be seen for crop after crop. As long as there is vegetable matter in the soil it slowly decomposes it, forming new combinations and fresh food. Lime appears to change the inert or organic matters of the soil, and gives durability to their action beyond what would have been the case without the presence of that mineral. It also changes the relations between the other constituents of the soil, and is an essential element of plant food. It follows, then, that whoever may expect to harvest large crops immediately from

the addition of lime to poor land will surely be deceived."

Touching the quantity of lime to be applied, the same excellent writer says: "The proportion of lime to be added to the soil should be in accordance with the amount of vegetable matter already existing in it or that may be contributed. In other words the lime should progress, *pari passu*, and by following such a course the land may be brought to a state of permanent fertility to which it never could be carried by farm-yard manure alone. What may be an overdose of lime for one field would be a light dressing for another."

Believing this writer to be in the main correct, I have no doubt but that any of our soils would be benefited by liming, provided the necessary vegetable matter be applied for it to act upon.

It would be most decidedly beneficial to apply lime to our tobacco lots; for instance: where there have been heavy applications of the coarser domestic manures. Not only by causing a more rapid decomposition of the vegetable matter, but in supplying the plant with lime, for the tobacco plant draws more lavishly upon the soil for lime than any plant we cultivate.

I will take occasion to add also a few observations about the phosphates or phosphoric acid. The able writer referred to says of this substance: "We have said that phosphoric acid according to our estimate is the most valuable substance with which the farmer has to do." It is the bone-making element, and is therefore an indispensable ingredient of all animal food. Phosphoric acid, though extensively diffused and sometimes in large quantities, does not appear to be found in the same profusion as the other substances mentioned. The phosphate of lime is a fixed salt, neither soluble nor volatile, and when removed from the soil must be replaced. This is done in the shape of inorganic manures. The amount returned from the barnyard is infinitely less than that carried away in grain, hay, milk, bone and flesh; and notwithstanding all our care there must be a constant decrease of that substance. Unless we have recourse to exterior sources, utter exhaustion and impoverishment sooner or later is inevitable. There can be no civilization without population; no population without food, and no food without phosphoric acid.

The English were the first to discover the value and importance of the phosphates. Fifty years ago they waked up to the fact that the soils of England were nearly exhausted of this valuable substance; and ever since then she has been ransacking the whole world for bones, and the trade in bones has become immense. The same writer, speaking of this trade, says: "The bones introduced have increased to an enormous extent during the last few years. So far back as the year 1827, two hundred and fifty-eight vessels entered the one port of Hull, carrying 17,718 tons of bones. In 1835 the importation into Hull alone had increased to 25,700 tons."

"The loss that is taking place in this most essential ingredient of life (phosphorus) is enormous, unavoidable, and impossible to estimate with any correctness. Independent of that continuous drain which takes place by the washing of the soil, together with the waste ever

occurring in provisions of all kind, grain, vegetables and animals exported, and but a small part of which finds its way back to the place whence it came, there is another gradual yet certain loss, which in time will be felt. I allude to the phosphorus in our bodies which are buried in the ground."

Says the same writer: "Farm as you may, upon the majority of soils, without the use of extraneous fertilizers, your crops will certainly diminish, until impoverishment shall leave no other alternative than starvation or emigration."

At present the demand for the phosphates is such, and there is such vast quantities used, that the bone supply is totally inadequate to meet it, and recourse must be had to that great reservoir of supplies—the ocean. Recourse must be had to the mineral phosphates which come directly or indirectly from the ocean. The mineral phosphates and the bone phosphates are the same in substance, both yielding phosphoric acid. It is thought by some that the bone phosphate is the best. When furnished in the pure raw-bone state, the bone phosphates may be the most valuable,—for the raw bone contains a good deal of animal matter which yields a considerable amount of ammonia. But a vast deal of the bones now used in the manufacture of fertilizers has either been charred or leached, and contains no animal matter, and is therefore no better than the mineral phosphate. Persons who give the bone phosphate the preference fail to remember that the phosphates of the soil are all mineral, and the crop made from the natural soil contains the mineral phosphates alone. The amount of the phosphates that find their way back to the soil is very small when compared with what is abstracted; and if this constant drain is kept up without making due return, utter exhaustion is inevitable sooner or later, and the practical farmer should never lose sight of this important truth.

As a great deal of violent invective has been uttered recently against these fertilizers, and fraud and adulteration lavishly charged upon the manufacturers of them, I will take the occasion to express the honest belief that there is at this time less fraud and adulteration practiced than at any time since their first introduction. We have now a State chemist, whose duty it is to analyze all brands sold in the State. These analyses, which are published regularly from time to time, show that most if not all of them measure fully up to what they claim to be. Dr. Taylor, the State chemist, says in his report: "I have every reason to believe as to nearly if not all of these fertilizers, that the manufacturers have made an honest effort to attain what they claim."

In what I have said about fish as the basis of these concentrated manures, I do not pretend to raise any question of preference between fish and other manurial substances. I know that there are other valuable materials that have been utilized for the purpose, that have never seen the ocean. Whilst these other substances are both valuable and efficient, they are entirely inadequate to meet the demand, and fish do really constitute the main basis either directly or indirectly.

The point that I have endeavored to make in this paper is, that it is through fish and the

other inhabitants of the "vast deep" that nature contrives to repair the devastations of "flood and tide," and keep up the equilibrium between land and sea. It is a beautiful theory, and affords but another evidence of the wisdom and beneficence of the Great Creator, "who spake and it was done; who commanded and it stood fast."

WM. HOLMAN.

Cumberland Co., Va., 1879.

The Sugar Convention at Elmira, N. Y.

The convention was attended by a number of prominent men, among whom were Commissioner Le Duc, of the agricultural department; Prof. Caldwell, of the Cornell University of New York, and Mr. Englehardt. The first was called upon to lead in the discussion, and occupied the most of the time in giving his experience in the production and manufacture of sorghum sugar, and presented specimens which had been manipulated within the walls of his department, and concluded his remarks by saying:

"Now gentlemen, what you have seen to-day, I mean these sugars exhibited here, are the present results of an effort to revolutionize the country in an agreeable manner, by the introduction of a new industry of the greatest importance. It means revolution not only here among our own people, but a revolution abroad in the islands of the sea that take our surplus gold for sugar, and refuse our flour and other articles of export. This revolution means a change for the better in our depressed state of affairs."

The remarks of Mr. Le Duc were well received, but it was evident that those present felt more interest in the beet-root branch of the same subject. The chairman called on Prof. Caldwell to give his views on the subject under discussion, who claimed to have a special interest in it, as he attempted ten years ago, when he first went to Cornell, to introduce the culture of the beet and the manufacture of sugar therefrom, but for reasons assigned, mainly his engagements in other matters pertaining to his position, it was not a success, although Mr. Cornell, he said, took great interest in the project at the time, and gave him his hearty co-operation.

In the afternoon, Mr. Englehardt made an address on the cultivation of the beet, which, embracing the more practical details of the subject, we give in preference to the others, at the present time. We copy from the *Husbandman*:

THE SUGAR BEET.

The sugar beet is a variety of *Beta maritima*, a biennial plant found growing wild along the coast of the Mediterranean. Through cultivation, not only has the outer appearance of the plant been changed, but also its chemical composition, as the following analyses prove:

	Wild Beets.	Cultivated.
Potassa.....	30.1	48.9
Soda.....	34.2	7.6
Lime.....	3.1	8.8
Magnesia.....	3.2	5.5
Chlorine.....	18.5	6.5
Sulphuric acid.....	3.8	2.0
Phosphoric acid.....	8.5	7.6
Silicic acid.....	3.6	13.1

In the wild plant soda salts predominate, in the cultivated one potash salts. We distinguish several varieties of sugar beets: The white Silesian sugar beet, Ashard's beet, the Audlinburg variety, the French Vilmorine sugar beet, the Siberian and the Imperial sugar beet. Good sugar beets are usually pear-shaped, weighing from one to two pounds, with a white firm flesh, very few or no side roots and small heads of leaves. They are rich in sugar, but poor in other substances, especially in nitrogenous and non-nitrogenous. Their juice contains crystalizable sugar, albuminous or nitrogenous substances, phosphoric, silicic and sulphuric acids, potash, soda, lime, magnesia, iron and manganese, among organic acids, especially oxalic acid, also asparagin, gum, fat, etc.

The possibility of producing in the United States and Canada, beets possessing the required amount of sugar and being also in other regards equal to the requirements, has been established beyond a doubt, and the last and most convincing proof is the Maine beet-sugar factory of Portland. They started on the 21st day of October last, and within nine days produced, of all grades of sugar, 94,467 pounds out of 450 tons of beets, and they expected to manufacture from the dried beets 125,000 pounds more. I also have been informed that they intend to pay the coming season five dollars instead of four dollars, which was last year's price per ton of beets.

My friend and predecessor, Prof. Goesmann, now of Amherst, Mass., has done more to advance the cause of beet-sugar culture in this country than any other scientific man, and for much of what I shall state to you to-day I am indebted to his writings and experiments. For a successful cultivation of the sugar beet we require:

1. The best varieties.
2. A soil best adapted for beet culture.
3. The proper mechanical condition of the same.
4. A rational rotation of crops.
5. Manuring based on sound scientific principles.

The German beet growers cultivate most extensively the White Silesian beet, the so-called "Ashard beet," but not to the exclusion of the Audlinburg variety, which requires the richest soil. The Vilmorine beet, a French variety, is cultivated for its large percentage of sugar, but usually worked before it freezes, since it loses considerable of its sugar in the pits. A good sugar beet should contain at least 12 per cent. of sugar capable of crystallization, but a very small percentage of saline substances; and while the latter have no injurious effect on the formation of sugar in the growing beets, they are very objectionable in the process of separating and crystalizing the sugar, increasing the yield in molasses and the manufacturing expenses. Nitrogenous substances on the other hand exert their influences in the growing beets. They

reduce the yield of sugar, and we find therefore the amount of sugar in the beet corresponding to the amount of nitrogenous substances. The more of the latter are present the less of the former we will find.

For seed-beets we must select healthy, well shaped beet-roots, of from one and one-half to two pounds weight, showing the most rings of leafmarks. Moreover, seed-beets must never be taken from the first product of the soil, and they should be grown by themselves. An acre of seed-beets usually produce from 12,000 to 25,000 pounds of seeds.

I find it stated that "a mellow, deep, sandy loam," provided it possesses "a free and permeable subsoil,—a soil named by German agriculturists a rich first-class barley soil,"—is best adapted to beet-root culture. Whenever the subsoil is not perfectly free we must remedy this defect by a proper drainage. The soil should be deep and loose, more limy than sandy, rich in humus or well-decomposed organic matter. Stony soils to coarse gravelly soils, or thin surface soils with gravel as a subsoil, or, finally, a soil with too much undecayed vegetable matter, are considered not well adapted to beet raising. In regard to clayish soils I may state that they are objectionable during a rainy summer, since they produce watery beets, wanting in saccharine matter, while in a dry season they become hard and so compact as to interfere very materially with a proper development of the roots, which is more the case when from time to time heavy showers occur.

Before leaving this subject let me call your attention to the subsoil. The importance of the latter, especially its proper composition—that is, its available amount of plant food for the beets—becomes at once evident when we remember that in consequence of their long roots they must draw their required nourishment from it during the most important stage of their development, namely, during the time when they lay up the sugar in their cells. So long as they are not fully grown, of course they derive it from the upper portion of the soil which we manure. It is true we can assist by chemical means in conveying at least in part the required plant food from the upper to the lower or subsoil, as, for instance, by the employment of salt at the proper time and in proper quantities; but we are not in every instance certain of success.

While we may improve land with an inferior soil, or such as require the one or the other kind of plant food or several kinds, by supplying them with properly selected fertilizers and by an adoption of a rational system of rotation of crops, we require for obtaining the proper mechanical conditions of our soil deep plowing in connection with subsoiling (manuring the subsoil.) Then we should never plow to a less depth than eight inches; sixteen inches and even deeper is very advantageous, since all observations in Europe tend to prove that deep plowing and subsoiling has given the best results. In short, the improvement of the subsoil by mechanical and chemical means is of the utmost importance in the sugar-beet culture; but it requires some time before we can produce a

good beet-growing field from one that possessed neither the favorable physical properties nor the necessary plant food.

"Wherever deep plowing is undertaken for the first time, it is done during the fall, and the lands are immediately afterwards well manured. The rules for preparing the soil may be summed up as follows: manure in the fall and plow the manure in deep; use only well-rotted compost. If you are obliged to manure in the spring, begin the work in autumn at any rate and turn the soil two or three times; do not work the soil when wet; pulverize it with the best implements and as soon as possible; let not much time be lost between the last mechanical operation and the seeding." (Goessmann.)

The next point for our consideration is the exhaustion of the soil through beet culture and the restoration of that which we remove. If we could secure besides the leaves all of the press cakes, the scum of the factory, molasses, etc., resulting from our beet crop, we would return almost the entire amount of both the mineral and nitrogenous constituents, since with the sugar we remove only what the plant received from the air; but since this is almost impossible the following facts are important.

The effect of beet-root culture on the general prosperity of a country may be learned from the following facts:

An inquiry by the French government in 1850, for the purpose of ascertaining if an increased production of beets would cause a proportionate decrease in that of cereals and meat, showed that the district of Valenciennes in 1813 produced about twenty bushels of wheat per acre. In 1833 it produced thirty bushels. Before beet culture was established the entire production of wheat was 710,000 bushels. It rose in 1833 to 1,492,000 bushels,—an increase of over fifty per cent. In 1822 the whole district fed 400 oxen; nine years later, in 1831, it fattened 10,784, or an increase of over twenty-five to one.

"According to another official document of the French government, of 1873, there exists in the north of France a certain number of districts which have obtained the maximum of agricultural production. Thus in favorable seasons these localities produce an average to the acre of forty bushels of wheat, forty-five tons of beets, and 350 to 400 bushels of potatoes, etc. What causes this prodigious prosperity? In some parts it is due to the use of Flemish manure, which agriculturists from the North have utilized for centuries; in others where human feces are not collected it is entirely due to the production of beets. It has been repeated on all sides and it cannot be too much said of the cultivation of beets that it has contributed much to agricultural progress."

("See beet sugar, its economical production in the province of Quebec. E. A. Barnard, Esq., Director of Agriculture, Department of Agriculture, Quebec.")

The same is true in regard to the beet sugar districts of Germany and Belgium. While we in America produce eleven bushels of wheat per acre, they produce, to say the least, double, and

so it is with almost every other crop of farm produce.

The necessity of returning to the soil that which we remove from it year by year in grain, live stock, etc., is too well known to you to require argument on my part to convince you thereof. Barn-yard manure is the main and universal manure of the farmer; the commercial fertilizers he adds only to assist the former or to supply a particular deficiency of the soil. Since the beet requires a rich soil in well-decomposed organic matter for the production of the greatest quantity of sugar, it is the universally-adopted custom to manure heavily with barn-yard manure the year previous,—thus giving the latter a sufficient time to perfect disintegration, and to apply a commercial fertilizer previous to planting.

The Commissioner of Agriculture for the State of North Carolina recommended in his late circular to the experimenters in sugar-beet culture the following points: "Plow or spade at least 15 inches deep and pulverize thoroughly, putting on broadcast any commercial fertilizer known to be good for vegetables, at the rate of 400 pounds per acre, or ashes at the rate of 400 pounds per acre. *Be sure not to use stable or barn-yard manure.* The object of deep cultivation is to cause the beet root to grow entirely below the surface, the part above being injurious to sugar-making, and if the root should grow above the surface it must be kept covered by earth.

"Seed-planting.—Soak in water twenty-four hours, and as soon as you see signs of sprouting roll them in wood ashes or plaster, and plant not more than an inch deep, and thick enough in the drill to leave the plants from eight to twelve inches apart after thinning. Have the rows from eighteen to twenty-two inches apart. Remember that large beets are poor in sugar, and it is the percentage of sugar we wish to determine."

If you sow them by machine in rows twenty inches apart, and thin them out afterwards so that there are about eight inches between them, (that will require from fourteen to eighteen pounds of seed,) you can produce from 28,000 to 30,000 beets of the proper size. If they should weigh on an average one pound and one-quarter, you would have between sixteen to eighteen tons of beets per acre, containing at least 2,000 pounds of sugar.

The following table will be of interest to you:

NAME.	Annual yield of roots per acre.	Percentage of sugar.	Amount of sugar in the entire root crop.
Metz (fodder beet.).....	86,457 lbs.	4.5	3,890 lbs.
Imperial (sugar-beet.)....	59,613 "	10.51	6,265 "
Silesian white.....	52,787 "	13.64	7,200 "

The molasses obtained in the manufacture of beet sugar cannot be employed for the household as we use that of cane sugar, since it pos-

sesses a disagreeable taste due to a large amount of mineral salts contained therein—hence it is either used for stock-feeding or the manufacture of alcohol. The residue from the manufacture of the latter serves for the preparation of various potash and soda salts employed in the arts and manufactures. It is evaporated in suitable vessels to dryness, and then calcined, when one hundred pounds of it contain, on an average, of

	Per cent.
Carbonate of potassa.....	27.60
Carbonate of soda.....	4.70
Chloride of potassium.....	6.75
Sulphate of potassa.....	6.75
	45.80

The amount of these salts thus removed from the soil by sugar-beet culture is very considerable, and must be returned to it again either directly or indirectly. The cellular residue remaining after the extraction of the sugar from the beets, and which, according to the methods employed, varies in its composition and monetary value, is used for feeding purposes. In the shape of press cake it is worth over seventeen dollars per acre, and amounts to about six thousand pounds. It is an excellent fodder. The average composition is given as follows:

	Per cent.
Albumen	1.336
Sugar.....	6.487
Cellular tissue.....	11.180
Potassa.....	6.487
Saline matters.....	1.180
Water.....	74.180

The leaves of the beets, which usually amount to one-quarter the weight of the beets, if they can not all be fed green, may either be plowed under or be preserved by putting them into pits, dug on the dryest part of the farm, with alternate layers of chopped oat, rye or wheat straw, adding one quarter of one per cent. of salt. Care must be taken that they are packed properly and finally covered with a layer of earth, the latter being added in the same proportion as the mass shrinks by fermentation. It is stated that sixty pounds of fresh leaves produce forty pounds of preserved leaf-mass,—one acre furnishing thus over 5,000 pounds of such food, of which 100 pounds, taking a ton of good hay at \$20, is worth .163 cents.

Now, you may ask how much barn-yard manure will the press cake and the leaves yield when fed to live stock. The calculation is a very easy one if we know the dry substance of the article of vegetable food we are feeding. By multiplying this amount of dry substance with 1.75, we have the quantity of barn-yard manure resulting from it. Thus the 6,000 pounds of press-cake, with 25 per cent. of dry matter, or 1,500 pounds, yield 2,450 pounds, and the 8,000 pounds of leaves, with 11 per cent. of dry matter, or 880 pounds, give 1,540 pounds. Total amount of manure from both sources therefore almost two tons.

The time required to reap the benefit of various kinds of manure, the following calculation is usually adopted:

	1st Year.	2d Year.	3d Year.	4th Year.
Stable manure.....50.	25.	15.	10.	
Flour of bone.....30.	30.	25.	15.	
Oil cake.....50.	30.	20.	15.	
Peruvian guano...60.	80.	20.	15.	

The return from an acre of beets:

Sugar—1,900 pounds at 8 cts.....	\$152.00
Molasses for feeding purposes.....	3.66
Press cakes \$17.40, crowns \$4.....	21.40
Leaves as manure or fodder.....	12.00

\$189.06

To this amount should be added the profit on fodder converted into milk, beef and manure. (Goessmann.)

Without wishing to give the detailed account of the experiments, it will suffice to state: that the butter made from the milk had a pure taste, and that the leaves fed in a proper proportion with other food (he feeds fifty pounds of leaves, one pound peanut cake and twenty pounds of mixed fodder) have not only a beneficial influence on the milk secretion, but are also healthful and beneficial to the cows.

My friend Dr. Goessmann says: "The value of press cakes and preserved leaves for the support of live stock, particularly during a period when food, as a general rule, becomes scarce, and thus expensive, must be quite apparent, especially when we consider further that every ton of sugar beets raised furnishes 400 pounds of press cakes and 400 pounds of fresh leaves, and that an ordinary factory consumes from forty to fifty tons of beet roots per day during five months."

Value of Green Crops as Manure.

Messrs. Editors American Farmer:

Thinking that the result of a trial of a neighbor of mine may be of interest to others, I send you the following statement of facts; and if you should think it of sufficient importance, I hope you will give it a place in your valuable journal:

Mr. Brinton F. Warner, whose farm is about three miles and a half northwest of Bel Air, raised a crop of wheat last year, from the turning-in of a crop of Hungarian grass, that surprised his neighbors, and was, doubtless, very gratifying to himself. The field was an old orchard, about eight acres in extent, and the three preceding years had been planted in corn. The first crop of corn was raised without fertilizer of any kind, the land being moderately good,—making six or eight barrels of corn to the acre. The second year he manured half of the field from the barn-yard, and the third year the remaining half was manured from the same source. The following June (of '77) he sowed it with Hungarian grass—about one bushel to the acre—and in September he turned it in and sowed the wheat, without fertilizer of any kind. Last harvest he gathered upward of thirty bushels per acre of very fine wheat, of the Fultz variety. His brother, Wm. Warner, Esq., whose farm adjoined his, sowed a field of twelve acres of the same kind of land (for their fields were almost adjoining, only a small lot between them) in the same variety of wheat. This land has been well farmed for the last twenty years, and has been abundantly manured, for Mr. Warner was the most liberal in the purchase of commercial fertilizers of any of the farmers in that neighborhood. Beside putting on all his barn-yard manure, so that his field *should have* produced the best crop, he put on at the time of

sowing the wheat 400 lbs. of bone to the acre, sown broadcast, and 150 lbs. of some one of the prepared phosphates, drilled in with the wheat,—the whole at a cost of ten or twelve dollars per acre. His field did not yield but twenty bushels to the acre, and it was not equal in quality to that grown by Mr. Brinton Warner, from the Hungarian grass alone.

Mr. Brinton Warner last fall sowed some twelve acres in the Hungarian grass, turned under as before, and it is now looking very well.

He also had some six or eight acres sown with bone. If desired, I will advise you of result after harvest. [Please do—Ed.]

I think this trial of my neighbor Warner shows conclusively that our lands here need vegetable mould, and the Hungarian grass is a cheap and expedient way of furnishing it.

Very respectfully yours,

R. E. DUVALL.

Harford County, Maryland.

The Haymarket Agricultural Club.

Messrs. Editors American Farmer:

The club met on the 2d inst. at "Mill Park," residence of Mr. C. A. Heineken. The committee of inspection, attended by the other members, made quite an extended tour over the premises of Mr. H. In passing his hennery we noticed fine specimens of Houdans, Brahmas, Leghorns, &c.; fields well set in timothy and clover; stock in good condition and getting a good bite of grass in spite of the late cold, dry season.

Mr. H.'s specialty is his vineyard and wine cellar. We think he must find it profitable, as he is yearly increasing the number of his vines. Several communications from the pen of Mr. H., in former numbers of your paper, in regard to wine-making and its kindred topics, prove him *au fait* in the theory of his specialty, and we think the trial of a few bottles of his "Catawba" or "Norton Seedling" would convince the most fastidious that he is equally happy in practical results.

The Alderney cows, with their distended udders, are not only a good advertisement of the superiority of their breed as milkers, but also of the succulency and milk-producing qualities of Prince William grass. His stock were grazing the young grass of last year's seeding. That grazing young grass is preferable to mowing has been approved by a majority of our club, and we would revive the question "*here and now*" in order to elicit the views of our Gunpowder brethren, whom we, of this side of the Potomac, regard as Co. A. of the battalion of farmers' clubs who report at the headquarters of the old *American Farmer*.

Turning under not to be considered, and the question narrowed down to mowing or grazing, now, as least injurious to land and grass, would you drive in the mower or turn on the stock? Will our comrades at the head of column please pass their answer down the line?

After inspection, the question of a regular neighborhood market, for sale of stock, &c., under consideration for two previous meetings, was resumed, and it was determined to make

our first and experimental effort in this line on Saturday, May 17th, at Haymarket. We believe the local gatherings of stock, &c., for sale in every thriving neighborhood is destined to become a prominent and valuable feature in our marketing economy.

Question for evening: "Fencing in all its bearings and the soiling system in connection therewith." The club, without dissent, think land in this country too cheap and labor too high for the soiling system to obtain; yet earnestly approve the growing of fodder corn, &c., for the partial soiling of stock as a reserve when the pastures need supplementing. The fence question was approached cautiously and with an unaccustomed gravity of mien, all feeling that its importance should place it as a front plank in the platform of our State politics. In order to come within the purview of the law for damages, &c., we are required to make our fencing (as a negro legislator expressed it) "*horse-high, bull-strong and pig-tight*"—a tax on our farmers compared with which the "State debt" under the McCullough compromise assumes small proportions. Let us agitate this question, and if, for once, we can get our farmers to act in concert we shall get the needed legislation. Like protection for sheep, it may be a long time coming, but if we "*keep at it*" it will come.

Mr. Brown spoke of a good fence: he had seen five rails to the panel, posts set in ground ten feet apart, ends of rails flattened to about 1½ inches and nailed on, making a neater fence and taking up less land than the old worm-fence.

Mr. Heuser is trying the barbed-wire fence and likes it except as against vagrant hogs. A majority favor the "stake and cap" fence as being the best and cheapest under our present law.

ROBT. H. TYLER, Sec'y.

Prince William Co., Va., May, 1879.

Grazing Stock.

The Deer Creek (Harford Co., Md.) Farmers' Club's monthly meeting for May was held at the residence of S. B. & G. E. Silver, whose farm was inspected by the committee appointed for the purpose,—Messrs. Glasgow, Lee and Munnikhuisen,—who reported a fine lot of sheep on the farm; that the pasture and cattle looked well; that there had been already sold 76 lambs, averaging 45 lbs. each, and that there were 90 still left. One lot of sheep, wintered on coarse feed, fodder and straw, are doing well.

The committee commended the Messrs. Silver for hauling out manure in the spring and top-dressing the grass. Altogether, the farm is in fine condition every way.

The subject of stock grazing was then introduced. We quote as usual from the *Ægis*:

Silas B. Silver thought it important to ascertain what kinds of grasses will do best at different seasons of the year, so as to have pastures always vigorous and fresh. He read an interesting article from the *Country Gentleman*, showing that corn and grass together will put twice as much flesh on cattle as corn and hay,

and therefore thought that corn should be fed to cattle while on grass. He did not approve of turning cattle out too soon, when the grass is very young. Cattle will fatten on pure clover, but it does not last long enough in the fall. For pasturing sheep Mr. Silver said he wanted a close, thick, old sod, that the sheep could not tear up. He preferred short grass, and said sheep would do better on land that had not been pastured previously. He could see no difficulty in the way of cattle pasturing after sheep or with them.

John Moores said grazing was a healthy business—good for the land, good for the stock and good for the community. The most enlightened communities are those that graze stock, and the most intelligent farmers are grazing farmers. It is reduced to a certainty that heavy crops of corn cannot be raised unless the land has been previously grazed. There is more money in grazing than in any other branch of farming. The only rich farmers we ever had, or have now, have become rich by grazing. Many farmers think we must have old pasture for grazing, but Mr. Moores thought it could be done without old permanent pastures. Farmers often sacrifice a great portion of their farms by attempting to keep up such pastures.

George R. Glasgow preferred to turn his cattle out as early as they can find anything to pick. If turned out early it was his experience that they were less liable to scour than if kept up until the grass is high. He believed it would pay to give them meal.

R. J. Rogers was decidedly in favor of giving cattle a little meal when on grass. It will make them weigh better for their appearance. If fed some meal they rarely scour. He has some cattle which received no meal during the winter, but now he feeds to 20 steers, two or three times a week, 1½ to 2 bushels of meal, with 1½ gallons of salt mixed with it. This is placed on the thickest sod. The cattle lick it up and waste less of it than when fed from troughs or boxes. The true policy is to feed some meal all winter and never let your cattle get poor. Mr. Rogers said he had thought old sod would stand the most pasturing, but had his doubts about it being the richest. Hogs will do better if allowed to run on grass. Sheep and cattle will pasture well together. Sheep should not be kept on the same pasture a number of years, but should occasionally be changed to fresh pasture.

George E. Silver said in grazing stock it is important to have grass that starts early in the spring and lasts late in the fall. For that reason he was in favor of orchard grass. There is a good deal of difference in the quality of grass. Clover is not good for fattening purposes.—Early in the season it is too watery, and late in the season it is dead. It is better as hay. Timothy and natural blue grass are good fattening grasses. Old natural grass he thought as strong as grain and hay. Sheep want a close sod and short grass. They are not hard on land. Of course they bite closely, but it is not economy to let them stay so long upon a field. They will pull out new grass, but not old. Short natural grass is as good for hogs as any

other. A sudden change of cattle from the stables to pasture is not desirable; and when turned out they should still be fed a little grain.

James H. Ball said if you have plenty of grass of almost any kind, cattle will thrive on it—From this season of the year until the middle of June cattle like clover less than any other grass; but when clover gets older they will do better on it. The natural grasses are more palatable to any kind of stock, even hogs. If it is thick and close, stock relish it more and thrive better on it than when it is high. The normal food of animals is grass, and cattle should therefore be turned out early and fed a little grain in addition to the grass.

Jos. Cowden, of Cecil county, said that on their farm no salt had been used for stock of any kind, even horses, for five years. No difference could be seen, and they had been complimented on the appearance of the stock.

Mr. Ball suggested that the location of the farm, near salt water, had a great deal to do with it; that the animals got all the salt they needed in the salt breezes. Farther from salt water, salt is needed.

William Webster advocated feeding grain to all kinds of stock in the winter and turning out early. The benefit to the stock will overbalance the injury to the grass. Two years ago he fed 25 cattle, which were sold the last day of May. They were turned out early and allowed access to a woods. He had heard old farmers say that the buds did cattle great good. They were fed after being turned out, and put on more fat than during the same period in the winter. New clover will not do as much good as old pasture. With it there is a risk of swelling and scouring. He favored mixed grasses for pastures, and thought orchard grass the best for early and for late use. Would sow clover, orchard grass, blue grass or green grass with timothy. Would sow clover to improve the land. Cattle relish mixed grasses, will improve on them, and you will not impoverish your land. By proper management of grasses, cattle can be turned out two weeks earlier and kept out two weeks later than on any one variety of grass. It is a great mistake to keep cattle off grass until late in the spring.

Mr. Moores thought it would do mowing fields good to pasture them two or three weeks early in the spring.

Mr. Ball said his theory was that the coarser and less valuable grasses start first. If you turn out early, cattle eat them. If they are turned later they eat only the sweeter and more nutritious grasses and leave the field uneven.

Wm. Munnikhuyzen advocated turning out cattle early. Grass bitten off when two inches high will grow faster than when cut off at the height of six inches. He would not turn stock out early on clover. They will bite off the bud, which first starts, and thus injure it. He is pasturing the field he intends to mow. As to feeding meal to cattle in summer, he stated that he had once had some poor, rough cattle, to which he fed meal every day during the summer, and he had never had any to do so well. Clover is a pretty good pasture, but not as good as green grass. It is the best for poor land, however, as it will improve it more cheaply than

anything else will. He believed that sheep improved land.

James Lee said he did not agree with the other members. He did not think cattle ought to be turned out very early. By keeping them up until the grass gets a good start he can fatten more cattle on the same quantity of land than if he turned the cattle on it early. He generally turns out about the 25th of April, and feeds them also, for about five days, turning them in at night during that time.

Bennett Barnes said that he would not turn out cattle very early, as they eat the grass off too closely and it does not start well. Generally feeds everything about the place before turning out, if it took until the middle of May. Last year on a small clover lot he put a quantity of stock—horses, cattle and hogs. They all kept fat, and in August the grass was good. The pasturing seemed to do it good.

William F. Hays believed in old sod for fattening cattle, and preferred a little blue grass mixed with white clover. Last year he fed cattle meal on grass and was satisfied it paid well. Cattle ought to have water to run to at will. They should not be turned out very early in the spring. He did not believe shade was any use in pasture. Cattle ought to eat the grass when it is dry, and if you have shade for them they will lie in the shade at the time when they ought to be eating.

Thomas Lochary was in favor of raising timothy, clover, blue grass, orchard grass, and as many other kinds as possible, on the same pasture. Cattle should have as large a range as possible. If you have two or three pasture fields let them run in all. They should be salted once a week. In his experience cattle do better when turned out early.

Thomas A. Hays said he should mix grazing with dry feed. It is well not to make a sudden change. His cattle were turned out several days before, and are brought up at 4 or 5 o'clock, when they are fed a little hay, which they eat. He thought that would prevent their being bloated. Has grazed hogs to advantage both on short grass and clover, and thought the former quite as good as the latter. As many kinds of grass as possible should be mixed together, the fields should be arranged in connection with each other and the cattle allowed to go at will. He has tried to salt his cattle once or twice a week, but doubted the advantage of it. It might give them an appetite, but too much should not be given.

R. Harris Archer agreed with Mr. Lochary in regard to turning out early and sowing as many different kinds of grass as possible. He had never seen that it paid to feed meal in the field, unless you are overstocked and have plenty of corn. You might then feed to some advantage. When a steer is turned out from dry food to grass a reaction sets in and it is two weeks before he begins to improve. By turning out early he is ready for the grass when it comes. They should be turned out by the 10th of April, not later, and turned back into the stable at night until the weather is warm.

Silas Silver stated that he had had his sheep on the lawn for a month. They ate the grass very closely around the fences, and there he raised the heaviest hay.

Adjourned to meet on Saturday, June 7th.

OUR FRENCH LETTER.

Proposed Tariff on Farm Products.

Messrs. Editors American Farmer :

Continental farmers seem to be absorbed in the question of taxing, or not taxing, the agricultural produce of outsiders; the subject is, perhaps, warmer in France than in Belgium and Germany. Here the agricultural societies are divided on the question, but the majority evidently lean to placing entrance tariffs on wheat, live-stock and wools. The "high farmers," as a rule, regard protection dues as a delusion, and demand that all taxes which fetter the cheap transport of produce by rail or canal, and that augment the price of machinery, manures, food, adjuncts, &c., entering the country, be abolished, or sensibly diminished, following the reciprocal concessions of other countries. French millers unquestionably prefer grain from the United States, and which this year has been purchased in New York at fr. 16½ the hectolitre—equal to 2½ bushels or 154 lbs.; the cost of transport is sometimes over one-fifth more, or a total of fr. 22 1-5. Now, French farmers generally do not complain of fr. 20 per hectolitre for their wheat. But in some regions of the country, the department of Seine for example, the yield per acre of wheat is four times that in the Lower Alps, and double the return in the Seine-Inferieure and the Upper Rhine, the consequence of difference of climate and defective systems of cultivation. Before calling on Jupiter to put his shoulder to the wheel for them, French farmers ought to try the effect of greater enterprise in their modes of cultivation; throw more money into their business, till the soil deeper, purchase machines and auxiliary manures. But the small farmers are not wealthy, and French, like other banks, only lend to the rich.

The Season in France.

The season is extremely unpropitious: the soil is saturated and cold, and the frost retards all vegetation; harvests of good quality rather than quantity are desired, for the lightness of French wheat and its poorness in flour are the drawbacks in presence of foreign grain. The minister of agriculture has instituted an exhaustive inquiry into the agronomical condition of France, extending over the last eighteen years; the results cannot but prove of general and practical interest. The same minister has granted fr. 25,000 to M. Pasteur, to study the fermentation of wines and the phylloxera on his own property, where he has a private laboratory, in the Jura. Rest assured useful knowledge will follow M. Pasteur's investigations.

Experiments on Cattle Feeding.

Professor Sanson draws attention once more to the relation in the bovine race between precocity and the development of teeth; when the latter are complete the skeleton of the animal is achieved; the intervening period is called growth. About forty years ago from 4½ to 5 and even 6 years was the time required to fully develop the teeth; this period has been sensibly diminished by the tendencies towards precocious growth, which mean a truly close connection between teeth, development and nutrition. As

the breed of an animal, the robustness of its constitution, the work to which it may be subjected, and whether it be stall-fed or grazed, affect its precocity, so do these naturally react on the growth of the teeth. Also, as animals differ in appetite, the greater feeder becoming always the most precocious, so will the development of the teeth vary. M. Sanson proposes from these facts that at agricultural shows cattle be classified, as is practiced in Switzerland, not following declarations of ages, open to suspicion, but by pairs of teeth: one pair, two and three ditto. An experienced judge would have no difficulty in estimating the wear of the first or second pairs against the gums, only bearing in mind that in the case of precocious animals the enamel uses less rapidly.

Trenching Clover, Beet Pulp and Corn.

In the department of the Somme, clover and beet pulp are largely trenched for cattle feeding; now, green clover—species, red scarlet—when placed in the trench in an ordinary state contains a greater total of nitrogen than when similar clover is preserved in trenches after being dried. But in the latter case the nitrogen is more readily assimilable; hence a slight advantage in the forage previously dried in the air. The green fodder augments in nitrogen during the process of fermentation; the albuminous principles absorb atmospheric oxygen, give off carbonic acid, and those several gases of a very disagreeable odor,—but not at all repulsive for the stock. In preserving clover, the aim ought not so much to be to pack it as in the case of pulp, so much as to exclude the air by a good coating of earth, say a layer two feet thick. Bury, in a word, the forage; keep the air out. The fermentation in trenches of clover and beet pulp differ, though both have proteic principles. The pulp, however, has in addition sugar, which induces, when in contact with it, albuminous matters to produce alcohol and other secondary products; later, the alcohol or vinous stage becomes changed to the acetous or vinegar; and hence, owing to the sugar, why pulp presents a vinous odor and an acid flavor.

Belgium surpasses France, relatively speaking, in the adoption of the growth of maize for trench conservation. The horse-tooth variety of maize is preferred, as also the sowing in narrow lines—8 to 10 inches—which, if it does not give a larger yield than at wider spaces, certainly secures more tenderness of stem. The seed ought not to be sown in a wet soil, as it is liable to rot, like haricots, and can be sown from May to July. Maize accommodates itself to nearly any soil, but on condition of being well fed; in the case of rich soils, a dressing of nitrate of soda is the rule in Belgium at the time of sowing; in poor land, farm-yard manure is plowed down in winter, and in spring the supplemental stimulant consists of nitrate of soda, chlorate of potash and super-phosphate.

The Horse Show.

Held in the Palace of Industry, has presented no very special features this year; there has been an improvement in the breed of carriage horses, but those specially intended for the saddle leave much to be desired. The gathering is becoming more and more an occasion for combining the

attractions of a circus with those of a race course. It is impossible to show off horses yoked to vehicles, from a mere thrice running round the rectangular course; the objections are less practical in that which concerns the hurdle contests. The society would gain in utility by discouraging horse-dealers and livery-stable proprietors from passing off as horse-breeders. Other point: more attention ought to be given to the development of a type of horse good for all work.

Diseased Cattle Imposition.

Belgium has now adopted, like France and Italy, as sufficient justification to cancel the purchase of cattle, the existence of a disease known under the name of passing blood in the urine, (*hematuria*.) The disease can be concealed for a few days; pending that the animal is exposed for sale in fairs or markets, by administering astringents; poor peasants are mostly victims of the deceit, for the low price at which the beast is offered, tempts them, and its poverty-stricken appearance is accounted for by the seller as the consequence of insufficient food and a vigorous season. The disease may be due to an alteration in the blood; to a decay of the tissues, rupture of the capillary ducts of the bladder, &c. In addition to the passage of blood, the animal presents the appearance of a skeleton, and is very sensitive when the lumbar regions are touched. The malady is very common in the Ardennes, and the affected stock rarely sells for more than the price of its hide.

Remedy Against Insects, etc.

Sulphuret of carbon has been found not only fairly excellent against the phylloxera, but also other species of subterranean vermin. In the case of rabbits—moles are rather viewed as the farmers' friends—a few morsels of brick, dipped in the pure liquid, and then inserted in the holes, to the depth of 12 inches, and closing well the orifice, will speedily get rid of destructive puss.

Preserving Grapes

Fresh, has become a most remunerative branch of business; at present such sell in Paris for fr. 8 and 10 per pound; the principles to be observed are, to gather the most perfect fruit, on a dry, windy day; then hang the bunches in special cases, which latter may be suspended in an ordinary room, the essential being to maintain a uniformity of temperature—neither too hot to dry the berries nor below freezing point to congeal them. The famous Thomery plan consists in placing the grapes on a layer of fern in inclined deal cases.

Clover Sickness in Land.

Karmrodt seems to consider that when a soil is fatigued by the growth of clover, the cause is to be found in the imperfect friability of the layer wherein the plant draws its sustenance; that this friability, or minuteness of division, can be effected, not only by mechanical means, but by farm-yard manure, to encourage arial nutrition.

F. C.

Paris, April 24.

THE WINE INTEREST of California will be seriously injured should Congress change the tariff on wines, and especially if the "reciprocity" schemes succeed.

The Connecticut Experiment Station.

The State of Connecticut was the first, we believe, to institute an experiment station upon the plan of those which have obtained such celebrity in Germany; and New York has just followed her example by adding a similar institution to the Cornell University.

The reports from Connecticut station are published from time to time, and are found of much value. Every citizen of Connecticut, concerned in agriculture or horticulture, whether as producer, manufacturer or dealer, has the right to apply to the station for any assistance that comes within its province to render them, the station responding promptly to all such applications as far as lies in its power. Instructions and forms for taking samples, and terms for testing fertilizers, seeds, etc., for private parties, sent on application.

The board of control and the chemists and other professors are gentlemen of the highest character, and well-known to the country at large, with Prof. Johnson at the head, a student of the late distinguished Liebig, and no wonder that "Old Connecticut" is looked upon by the other States as the pioneer State in the work of developing and diffusing agricultural knowledge.

Feeding standards and formulas are given in the first annual report of the experiment station. Several rations for milch cows are compounded and published. One of several is cited to show what is done by the way of compounding rations, as follows:

RATION FOR MILCH COWS.

	Dry or- gan. sub.	Digestible		
		Albuhl- noids.	Carbo- hydr's.	Fat
20 lbs. cured corn fodder.....	13.7	0.64	8.68	0.20
5 lbs. rye straw or stover.....	4.1	0.04	1.82	0.02
6 lbs. malt sprouts.....	5.9	1.16	2.70	0.10
2 lbs. cotton-seed meal.....	1.6	0.62	0.36	0.24
	24.4	2.46	13.56	0.56
Standard.....	34	2.5	12.5	0.4

In the report of 1878 is printed a large number of analyses of various forage crops grown for cattle, comprising Indian corn, of Eastern and Western varieties, with the feeding value of corn cobs, and hay from grass grown and cured in Connecticut and New Hampshire. In South Germany are mentioned crops of fodder corn of luxuriant growth, the largest crop being equal to 64,130 lbs. per acre cut green, and cured 12,470 lbs. Green weight, upwards of 32 tons per acre; and cured, upwards of 6½ tons per acre.

This shows a great yield of forage per acre, confirming what the writer has often said, that as a rule a farmer can grow more cattle food per acre of corn than any other forage crop.

By the analyses of some eight or nine varieties of corn (maize kernel) comprising Western Dent, and Eastern Flint, in other words Eastern and Western-grown corn, it was demonstrated that the Western Dent is neither better nor worse than the Eastern Flint varieties of corn. It must be concluded, says Prof. Johnson, from a comparison of thirteen samples of corn grown

in Michigan with nine samples grown in Connecticut and North Carolina, that the average of Eastern and Western maize is essentially the same, and that neither Dent nor Flint varieties is uniformly richer in albuminoids or in oil.

Millet.

The results of the trial of millet as a green manure crop, furnished us by Mr. Duvall, are valuable at this time. In the pages of the *Farmer* we have frequently directed attention to the use of this plant, and it will be doubly esteemed if found in general to have the fertilizing qualities these experiments, and some others of which we have heard, seem to give it. In addition to what is said in the communication of Mr. Duvall, and referring at the same time to similar statements of Dr. Jno. R. Woods, of Albemarle, Va., in back volumes of our paper, the annexed remarks from the Monthly Journal of the Virginia Agricultural Society will be found of interest:

"We here make a timely suggestion to our readers, especially those in the tobacco counties of the State. In these counties there is generally a deficiency in good and nutritious winter forage. Nothing will better supply this want than millet. It is a summer crop, and will mature in six weeks, but requires *rich, dry or well-drained land, and careful preparation*. Land rich enough to produce 1,000 lbs. of tobacco will bring from three to four tons of good millet hay, which is equal to or better than the best timothy. Millet should not be sown until the ground has been thoroughly warmed by the summer's sun—say from the 1st to 10th of June—and should be cut and cured, as other hay, about two months thereafter, and whilst the seed are in the *milk state*.

"It is estimated that one acre of good millet is equal to four or five acres of good oats. One bushel of seed is sufficient for one acre, and can be obtained in the Richmond market at from \$1 to \$1.25 per bushel. After a thorough preparation of the land by good plowing and harrowing, the seed should be sown broadcast, at the rate above indicated, and then *lightly* harrowed in. From these data each farmer can decide for himself what quantity of land will be required to meet his wants for a hay which, in winter, is generously eaten by horses and cattle, to their great advantage. We hope some of our readers to whom this plant is unknown will, at least, make an experiment and report to us the results.

"We may add that there are three varieties of this plant, known as the American, German and Pearl, or Egyptian (?) millet. The two first, so far as we have ascertained, have about the same properties as a hay-producing plant, but the last is especially desirable for *soiling* and is wonderful in its productiveness. As one crop is partially cut for soiling purposes, another of equal luxuriance springs up from the root, and thus a continuous

supply of green food is furnished through the season. So far, it is less known for its properties as a winter hay; and its seed, being scarce, is much higher in cost, but we recommend its trial also."

Live Stock.

Jerseys and Guernseys.

The *Bulletin* of the Jersey Cattle Club has the following comparison of these two breeds:

The islands of Jersey and Guernsey lie within full sight of each other, and they are connected with England by the same line of steamers. Their cattle are both called "Alderneys," and types similar to both breeds are to be found in the distant small island of Alderney. Both Jersey and Guernsey, by their local enactments, prohibit the landing on their shores of any "foreign" cattle. Each admits animals from the other island, but, in each case, the prejudice against the breed of the other is so strong that there is practically no interchange of stock. The local champions of the Jerseys insist that their breed is the best; the local champions of the Guernseys insist that theirs is the best. Local statistics as to production do not enable us to decide between them. Certainly both breeds are good, and either is entitled to quick approval as compared with other dairy breeds. Both have had the same facilities for making themselves known abroad, and both have been exported freely from the earliest times. Neither in England nor here have the Guernseys gained more than a foothold, while the Jerseys are in both countries widely established as the dairy breed, *par excellence*, and as the *lawn* breed, as a matter of course.

In our opinion the Guernseys have received less than their deserts. Cattle-breeders—even common farmers—are so much influenced by the question of beauty that they have been slow to recognize the merits of the Guernseys, hidden as they are under such an unprepossessing exterior. They have, almost universally, stuck to their fancy for beauty combined with merit, to the practical exclusion of merit divorced from beauty. In so doing they have followed a common law of human nature, and they will probably continue to follow it to the end. The lack of beauty of the Guernseys, though not without its marked exceptions, is a typical characteristic of the race. It lies in coarse horns, coarse frames, coarse heads, and coarse rumps—to say nothing of the absence of black muzzles, black eye-lashes, and black ear-fringes, which, with no economical advantage, certainly do emphasize the expression of the head. In all these points the Jersey has immensely the advantage.

Jersey cows are but ordinary beef cattle, and Guernseys are excellent in this respect; but if we are to be influenced in the choice of a dairy cow by the degree to which she will yield beef when she is dead rather than by the degree to which she yields butter while she lives, we shall pay "a pound of butter for an ounce of beef," as our Skaneateles philosopher has so cleverly shown us.

Measured *solely* by the question of butter, there is not so very much to choose. The quan-

tity of the product, as seems clearly shown by experience in the islands, is essentially the same, when considered in its relation to the amount of food consumed. The Guernsey's butter is *very* much more yellow, so far as that is an advantage, and the Jersey butter is much firmer and more waxy in texture, which surely is an advantage.

To sum up the case—both breeds are *first rate*, good enough for any farmer's use. This being the case, the choice will continue to be given to that breed which, with equal benefit to the pocket, gives that pleasure to the eye which is nowhere more cherished than among farmers, whose aesthetic tendencies are more cultivated here than in any other department of art. In the voluminous correspondence which accompanies applications for entry in the HERD REGISTER expressions of delight over the beauty of the animals described are much more frequent in the letters of common farmers than in those from men who might be expected to attach more importance to this consideration.

No Jersey breeder need take alarm at the attention being given to the Guernseys. They had a very excellent opportunity to make their way here in the early importation of Nicholas Biddle, when they had the field to themselves. That importation has produced no important results. The Jerseys made a later start and took the field without question. Having taken it they are going to keep it.

Sheep Husbandry.

There is always danger in any popular movement of over-doing things, and hence many enterprises have been inaugurated calculated to increase the wealth and prosperity of the community at large that have come to naught by the ill-digested plans of those who have rushed into them without counting the cost or securing the primary facilities necessary to attain success. Taking this view of the renewed attempt to introduce sheep husbandry more extensively, the *National Live-Stock Journal* gives some suggestions of caution which we most cordially endorse. Says the writer:

"One of the strongest of the elements that have brought disaster to efforts at sheep husbandry has been the desire to do a big business. Men reared to other callings, seeing the profits others were reaping from well-directed efforts at sheep husbandry, have hastened to become the owners of flocks; while still others, who have made money from a few hundred sheep, have become imbued with the idea, 'the more sheep, the more money,' and have soon placed themselves beyond the bounds of prudence, by incurring indebtedness on the one hand, and more care and labor than they are able to bestow on the other hand—both have been overtaken by the disaster their temerity invited. To a majority of farmers small flocks—that is, numbers remaining in the hundreds—will be the most profitable. The exceptions to this rule will occur to every

careful student of sheep husbandry. Not only can the highest profit upon invested capital be thus rendered more certain, but the disappointments that occasionally follow the best of plans, and the most careful manipulation, are by no means so disastrous. Where sheep are handled as an incident to general farming operations—the plan now contemplated—care should be had that they do not trespass upon the other interests. When the farmer feels that his sheep are a burden—that is, that they are drawing upon the other departments for the time and feed not before assigned to them—he should fatten, and sell down to such number as will conveniently work along his crops and other live-stock. Local butchers will always pay a fair price for a few good wethers, and some neighbor can usually be found ready to make room for a few desirable store sheep. As the facilities for enhancing the numbers of the flock improve, the annual drafting may be confined to full-grown wethers, and such ewes as, by reason of age or other disqualifying peculiarities, are undesirable. The flexibility of a small flock is one of its strongest recommendations—enabling it to be accommodated to the circumstances or ambitions of the owner more readily than any other live-stock property."

Percheron-Norman Horses.

In answer to a statement made in another Western paper, that this breed of horses were lacking in "constitution," and consequently a short-lived race, the *National Live-Stock Journal* shows, from the facts given in the herd-book of the six importations made into Ohio prior to 1860, (and up to that date they were few,) that the average term of life had been 24 years, with one still living. The earliest age at which any of them died was in the case of Rollin (418 of the Stud Book,) foaled 1852, imported 1856, who died June, 1869, aged 17 years. Old Louis Napoleon (No. 281 of the Stud Book,) foaled 1848, imported 1851, died August, 1871, in his 24th year. All the others lived to be over 24, and one, a mare, is yet living, in her 28th year.

When it is considered that these French draft horses are almost universally kept in a state of obesity, peculiarly unfavorable to health, this showing of longevity is very remarkable, and speaks volumes in favor of their constitutional vigor.

Sheep Shearing.

Messrs. Editors American Farmer:

I have just sheared my Cotswold ewes, and 3 fine specimens gave 17 lbs., 18 lbs. and 20½ lbs. wool respectively; and my entire flock averaged about 14 lbs. each. These sheep were sired by my imported ram, Duke of Gloucester. Have not sheared my Merinos yet, but expect a heavy yield, and will report next month.

If you think praiseworthy, you might publish these weights. Ed. C. LEGG.

Kent Island, Md., May 24, 1879.

The Dairy.

The Maryland State Dairymen's Association

Held a meeting on May 23d, at Central Hall, Baltimore, to which the public was invited. In the absence of Mr. Roberts, the president, who was unexpectedly detained by business engagements, Mr. L. A. J. Lamott, one of the vice-presidents, took the chair, Wm. B. Sands, secretary. The first business was the reading of papers prepared by the distinguished gentlemen who had been invited to address the meeting.

ADDRESS OF PROF. M'SHERRY.

Prof. Richard McSherry, M. D., read a paper on the "Milk Question." Our daily bread, said the Professor, seems to be the first want of the human race, and yet, except in the sense that bread means all food, to a large and interesting portion of the human family, milk, and not bread, is the first want, the first nutritive element, or aliment. It is strange how nearly akin are bread and milk. The analysis of milk and flour show a remarkable resemblance, both containing salts of potash, of soda, of lime, and of iron; both contain starch or sugar and oil, and proportions of fibrin, albumen, casein, and gluten, all of which constituents enter directly into the composition of the blood, and health. Blood contains and requires all of them, and none of them can be left out without detriment to the quality of the blood, which is the great feeder of all the living tissues, the food of life. Good normal milk has within itself all the elements of nutrition, and is quite adequate to supply the young being with all the food that nature requires. Beyond infant life it is difficult to say how far milk would suffice for the wants of the animal economy; the progress of development and maturity require more solid food—more solid, for a portion of milk always becomes solidified before it is digested. An African traveler asserts that the strongest man he ever knew scarcely ever touched animal flesh; he was a Dane, whose chief diet was thick, sour milk by the gallon, tea and coffee. Good milk has a specific gravity of about 1.030. Seeing that milk is seven-eighths water, it seems advisable that no further watering be done until the supply from the dealers is prepared for use in the nursery. With some stomachs milk disagrees, for every stomach has some laws for itself, which may not be violated, but frequently milk is blamed without reason. No man should add a glass of milk to a full dinner, overtaxing his stomach. Good milk is also a therapeutic agent. Recently fresh milk has been injected into the blood vessels to make up for a rapid loss of blood. This derivation from the blood, or liquid flesh, as it has been called, is so like it that it is capable of supplementing the loss for a time, until a revival is induced of the flagging powers of life.

Dr. McSherry urged the necessity of not only pure food, but pure water for cows, and showed that disease, such as typhoid fever, had been caused by negligence in this respect. If the water, often added fraudulently to milk by un-

principled dealers, were always pure, the injury done would be trifling, but unfortunately a great deal of the water so used was pump water, which, in or near cities, is always vitiated. Another source of danger is in keeping milk for a considerable time in tin vessels; it also becomes tainted by being kept in close or badly ventilated places; the feeding bottle used with infants may corrupt milk if not sufficiently cleansed after every use. Cold is a great preservative of milk, and, on the other hand, boiling sometimes tends to preserve it for a time and makes it more digestible. Condensed milk is very convenient for domestic use. Cream is too rich for common use, but is less apt to undergo fermentation than milk, and for this reason some invalids can take cream with water to advantage. Bonney-clabber is about equally digestible with milk, and as nutritious. Buttermilk, fresh, is wholesome, less nutritious, but more easy of digestion than milk. Healthy milk must come from healthy cows, which must not be crowded in dark, damp, ill-ventilated houses. Open fields and pure air they must have in order to give wholesome milk. Authorities were quoted to show that disease was transmitted to human beings by eating the flesh of diseased cows, as well as drinking the milk. Producers sending milk to Baltimore should combine, pledging pure milk, and demanding fair remuneration. There ought to be investigations of production and supply. Every dairy farm ought to be subject to the investigation of an agent of the State board of health, and all milk offered for sale subject to examination by men of science, appointed by the city authorities. The analyst should have the right to take a small quantity of milk from every vendor at any time for examination, and regular reports should be published. The analyst should report quarterly to the commissioners of health. The health of thousands depends upon the quality of this milk, which is or becomes their life's blood. The result would be that farmers who furnish the best will always have precedence in the market.

ADDRESS OF DR. SCHAEFFER.

Dr. E. M. Schaeffer, of Washington, D. C., delivered an address, describing at length the properties and chemical composition of milk, the adulterations practiced and their detection. The legal definition of adulteration in milk by the English law is "any foreign animal, vegetable or mineral substance, or any water added, or the removal of any portion of cream." He said Prof. Chandler, of the New York Board of Health, estimated that of the 120,000,000 quarts of so-called milk sold every year in that city one-fourth was water.

The speaker showed under a microscope specimens of milk, and explained how foreign substances added could be precipitated and detected by this instrument.

DR. VAN BIBBER'S PAPER.

The secretary then read a paper from Dr. W. C. Van Bibber, who had been called away by professional duties, upon the "Relationship between the milk supply of the city and the public health." Dr. Van Bibber prefaced his paper with a brief statement of the nature and formation of milk, and continued: In this city there

are but two kinds of natural milk used to any considerable extent as food, viz: that from the human maker and that from the cow. It can hardly be expected that the Maryland State Dairymen's Association, however patriotic and philanthropic its members may be, will consent to discuss the arrangements which the expectant "pater familias" may have made concerning his domestic supply of milk for his rising generation, but, yet, I believe that the experience of some of the members of the association would lead them to give wholesome advice in this particular, by which, if followed, the city would be largely supplied with mothers from the country, and vice versa.

Dr. Van Bibber then alluded to the lactometer, the instrument for determining the specific gravity of milk, and the results obtained by its use. He considered the chemical properties of milk, its color, its taste. He then considered its purity. On this point he said: In this city it is used as a necessary article of diet for infants and children, for the sick, the weak and aged persons, as well as an agreeable, nutritious and wholesome beverage for those in health and who wish to retain their health and strength in the conflict of the duties of life. By the kindness of the Commissioner of Health, Dr. James A. Steuart, the Sanitary Inspectors, Mr. Joseph V. Fitzpatrick and Mr. Beverly Diggs, kindly collected for me a few statistics on this subject. For this purpose forty-one dairies were visited. These were the principal dairies in the city, but not all, and there are other sources of milk supply not embraced in his figures.

Of the forty-one dairies the largest quantity sold by any one was 500 gallons per day, and the smallest four gallons per day. The total of the forty-one dairies was 3,770 gallons per day. Since this quantity would scarcely give an ounce and a half of milk to each person in the city, it is supposed that not over two-thirds of the entire milk supply is embraced in his report.

It is not easy to ascertain with precision the average price paid by the consumer per gallon, because the price is not uniform, but even at the risk of entire accuracy, if the price be averaged at 30 cents per gallon, the consumers pay to the dairies about \$1,100 per day. It would be fair, and probably below the actual amount, to estimate the entire retail sale of all kinds of milk and cream in this city at \$1,500 per day. This is about \$550,000 per year. This estimate will serve at least to show to the members of this association that the importance of the product in which they deal is large in pecuniary value. Germane to this subject, and connected with it in material, as well also as an important matter of public health, Sanitary Inspector Beverly Diggs reported that from a reliable source he had ascertained that the sales of butter in this city amount to between thirteen and fifteen million of pounds annually. Of this amount two-thirds are received from the West and New York State, and one-third from Baltimore, Carroll and other near-by counties of Maryland and York county and neighboring districts of Pennsylvania. The amount of butter which is obtained by an exchange for dry goods, groceries, &c., by our merchants, is small; perhaps not over \$10,-

000 annually. The sale of oleomargarine does not exceed over 50,000 pounds annually.

It is plain, even from these imperfect statistics, that the products of the dairy are much in demand, but not as much, I think, as they should be. They serve their purpose, however, in more ways than one, and in a pecuniary way keep an active exchange of those coins concerning which our wise legislators have so much to say; and at the same time, being so much used as articles of diet, they surely must have an effect for good or bad upon the health of our city. When we reflect that man as an animal is what he is solely by what he eats, and that his health is better or worse in a great measure according to his system of diet, then the importance of this paper appeals to me with conscientious force.

The commencement of infantile life and the formation of the constitution of a child is, to a certain extent, dependent upon the quality of milk which is given to it; and, indeed, its living or dying in infancy bears a greater relationship to this than to any other one thing, and therefore it is of the utmost importance that no dishonest practices should be permitted in the milk supply.

One of the dairies represented in this association has printed a valuable paper for public distribution. In this circular it is stated that water, salt, soda and saltpetre are used in the adulteration of milk. Unfortunately, this liquid is easily adulterated, and the dishonesty cannot be detected by an ordinary consumer. The most I can do at present is to call attention to the fact. If I had more time to collect other and different kinds of information, the true relationship of this subject to the public health could be shown with more precision, and I hope that what has already been done here to-day will be but the commencement of further investigations.

I have endeavored to show what is pure milk, and how it can be tested. Also, for what purposes it is used, and how much we are dependent upon it as an article of diet and luxury in this city. In order to prevent its adulteration all information concerning it should be collected, and an interest excited in the subject.

TREATMENT OF COWS.

Dr. C. A. Leas, of Baltimore county, also spoke, especially of the treatment of cows. He referred especially to the treatment of cows in this city, which he said were cooped up in close, ill-ventilated stables, over-crowded and forced to exist in filth, and their condition materially contributed to diseases, probably sometimes fatally. He urged some action looking to relief and improvement in this connection.

On motion of C. Cole, of Harford, the thanks of the association were tendered the speakers of the day, and the secretary was instructed to request them to place the manuscripts of the same for publication should its transactions be given a permanent form.

The executive board having reported in favor of the application to the General Assembly for such legislation as will prevent adulterations of milk, the association instructed that body to take such action on the premises as it thought proper.

On motion of L. H. Cole, of Carroll, the executive board was requested to invite cooperation of the State Board of Health in the suppression of traffic in impure milk.

A resolution was adopted authorizing the executive board to correspond with prominent citizens of the several cities and towns of the State with the view of securing their aid in the formation of local protective associations.

The by-laws for the associations were reported by the executive board and adopted. One section occasioned considerable debate,—it being one concerning the dissemination among the members of information concerning delinquent dealers. It was finally adopted so as to request producers to report dealers who violated their contracts.

The executive board was instructed to have the association incorporated under the general law of the State.

A number of new members were elected, and the association adjourned to meet on a day to be fixed by the board.

The meeting was well attended, and great interest was manifested in the addresses of the speakers and in the general objects of the Association.

Stanchions vs. Chains.

Messrs. Editors American Farmer :

In the April number I read a communication from the pen of T. J. Betts, on the care and feeding of dairy cows, in which he says his firm belief is that stanchions make the only proper method of confining cows by which they can be kept clean under all circumstances. Now, as to cleanliness he is no doubt right, and cleanliness in butter-making is very important; but I contend it is more important in the care of the milk than it is in the care of the cow. As good and clean milk and as good butter can be produced from a cow that is a little dirty outside, as one that is kept perfectly clean. But, as regards stanchions, I wish to ask Mr. Betts one or two questions: Does he know, or did he ever take notice, that a cow confined in stanchions is not in her natural position, either to sleep or rest; if he has never noticed it, let him visit his yard at night, where he may have some cows loose, to lie down and sleep and rest as they desire to do, and see if they are not resting and sleeping with their head resting around upon their foreleg and side, and then visit the cows in the stanchions and see if they can get in the same position; and then ask himself, have I not forced these cows out of their natural position? And if he thinks it makes but little difference, let him try himself to sleep and rest with his head and neck in an unnatural position; let him go to bed with his head forced back or over one side, and be compelled to lay that way, and determine if he can be comfortable. This will be met with the reply: Man is not a cow; that is true, but a cow has natural feelings as well as man, and if you put them in an unnatural posture they will be constantly uneasy, and whilst so they are not making milk. If you want the best results give them a position where they will be as free from excitement as possible.

I believe in stabling cows in the winter, whenever the sun is not shining, I don't care if it is 22 out of 24 hours in the day, but make them comfortable, and give them a chance to sleep and rest while in the stable. To do this, I know of no better way than the rack and trough, with a chain going through the middle of the front board in the trough and around the neck; this gives the cow liberty to lie down and sleep and rest with their heads upon their side. Give them a good bed of straw and plenty to eat, and as soon as they are done eating you will find them lying down composed and making milk. The bed is very important, and if Mr. Betts does not think so, let him give the cow her choice, and see if she don't put for the bed of straw, particularly in a cold night.

Mr. Betts thinks the carding of much importance and the time well spent, but I think the time is better spent by putting a good litter of straw under them every day, which will dry up the liquid manure; and when they are out of the stable take the wheel-barrow, and the time you would consume with the card, and wheel the manure all out of the stable under a dry shed, which, when full, or at some convenient time, cart out upon the field you intend to put in with corn the following season, and put some lime with it, and you will see the result of it. I think it will throw your stanchion and hard ground for the cow to lie upon all in the shade. I, for one, cannot see any benefit derived from stanchions, except its being a little cleaner and a little less labor tying them. As to dollars and cents, I think they are lame in every respect, and I challenge any man to produce a more profitable result by the use of stanchions than I can by the use of chains from the same herd of cows treated in the same way except the use of stanchions. Mr. Betts does not give his yield from his dairy, but is like some of my neighbors who advocate stanchions, and say if you take them away they will quit the business, and yet when asked about their yield of butter it is hard to get an answer. If I thought the butter business rested upon the use of stanchions, I would assuredly quit the business, but I am yet to be convinced of that. I believe it will pay both with and without stanchions, but will pay better without them.

G. M. SEARCH.

Montgomery County, Md.

The Poultry Yard.

The Season—Hints, &c.

By G. O. BROWN, Montvue Poultry Yards,
Brooklandville, Md.

So far the season for young chicks has been somewhat unfavorable, on account of cool and continued dry weather. Eggs, unless they happen to be set on the ground, have not hatched as good a percentage as usual. Where the nests are made in boxes up high from the ground, it will be found of material advantage to sprinkle the eggs after the tenth day with a little tepid water while the hen is off, say on 12th, 15th, 17th and 19th days, if the weather is dry and windy as has been the past four weeks. The longer the egg is set upon the more porous

the shell becomes, and the dry winds harden the membrane of the egg, and the chick is hardly able to penetrate it, as it becomes tough and leathery. The chick is sometimes strong enough to pip its bill through and no further, and many wonder why they die after so near "putting in an appearance." Sprinkling the eggs keeps the membrane soft, as nature intended. More eggs will be set this June than any previous June months for a great many years. Chicks hatched this month thrive continuously. Plenty of insect food, and the exercise it affords in securing it, is just what is needed to keep the chicks thrifty. Of the quick-feathering varieties, such as Leghorns, Hamburgs and Houdans, many poultry-fanciers never breed them until June. A lady correspondent writes, her chicks are rapidly going off with the gapes. I advised anointing their heads with lard and coal oil, about a teaspoonful of oil to a cup of lard. She has not lost any since she applied the remedy. Close examination will show a dark louse on the head of the chicks as soon as they are dry enough to be removed from the nest, and chicks with it are most certain to get the gapes. They should be head-greased with the mixture mentioned above as soon as they are removed from the nest. Move the coops to new ground at least every other day. Keep fresh water constantly where they can have easy access to it. A cheap fountain may be made by taking a discarded fruit can; make about three nail-holes around the sides, one-fourth of an inch from the top of the can—the end where the cap has been removed, fill it up with water, place a saucer over it, and holding them securely together, quickly invert it and your fountain is completed. It will only run in enough to cover the nail holes, and as fast as the chicks drink it will fill up. It should be set away where the sun will not shine upon, and the water will be good the entire day.

Turkeys.

It does not cost any more, or much more, to raise a pound of turkey than a pound of hen flesh. In the summer they require to be fed less, being masterly campaigners on their own account, while in the winter very likely their nervous disposition demands somewhat more stimulus than other fowls. If well fed, they do not require nearly as careful housing as the hen, although it is a good policy to make them roost indoors; but left to themselves they prefer to weather out the wildest storm in the tree-tops. Finally, when brought to market, their flesh is worth much more than that of the hen, so that, other things being equal, it is economy to keep them instead. Also—and this is well worth considering—allowing that the percentage of loss of young turkey chicks under most perfect management is greater than the loss of chicks of the common fowl, still turkeys that survive reach such a great weight that a given number of pounds of turkey may, perhaps, be raised with less labor than the same quantity of flesh of the common fowls.—*Poultry Monthly.*

Horticulture.

The American Pomological Society.

The circular of the 17th session of this association has been issued by Col. Marshall P. Wilder, president, and Robert Manning, acting secretary. The meeting for 1879 will be held at Rochester, N. Y., commencing on Wednesday, September 17, continuing three days.

The exhibition of fruit will be on the grounds of the Western New York Agricultural Society, in connection with the annual exhibition of that society, and it is intended to make this one of the greatest exhibitions of fruit ever seen on any similar occasion.

All horticultural, pomological, agricultural, and other kindred associations in the United States and British Provinces, are invited to send delegations; and all persons interested in the cultivation of fruits are invited to be present.

It is earnestly hoped that there will be a full attendance of delegates from all parts of our country, thereby stimulating more extensive cultivation by the concentrated information and experience of cultivators, and aiding the society in perfecting its catalogue of fruits. This catalogue includes fifty States and Territories, most of which have their columns filled with a great amount of information as to the fruit adapted for culture in the respective locations. Many of these are yet incomplete; and it is the object of the society, from year to year, to fill the blanks, and bring its catalogue nearer to perfection.

The coming session will derive a special interest from being held in the midst of one of the great fruit-growing regions of the country, and in a district unequalled in the world for the extent of the nursery interest, in the propagation of fruit and other trees. It is believed that the city of Rochester is more easily accessible to a larger number of persons interested in the objects of the society than any other city in the United States, and a full attendance and an interesting session are therefore anticipated. When we consider the importance of fruit culture in North America, its progress during the last thirty years under the beneficent action of this society, its moral, social, and sanitary influence, and the increasing demand for its products both in this country and Europe, rendering it a source of national wealth, we feel justified in urging the attendance of all who are interested in the welfare of our country and the development of its wonderful resources, in this branch of industry. It is desired, in this connection, that the vice-presidents of the several States, Territories, and Provinces, who have not already done so, should (following the plan commenced last year) furnish or procure, as far as possible, short historical sketches of the rise and progress of fruit culture in their respective districts, from their settlement up to the present time, to the end that the forthcoming report may, in connection with the last, give a complete view of the pomological history of the various parts of the country. State and local horticultural societies are respectfully requested to co-operate and aid in this work.

Arrangements will be made with hotels, and, as far as possible, with the various railroad lines terminating in Rochester, for a reduction of fare.

Members, delegates, and societies are requested to contribute collections of the fruits of their respective districts, and to communicate in regard to them whatever may aid in promoting the objects of the society and the science of American Pomology. Each contributor is requested to prepare a complete list of his collection, and to present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as early as practicable. A limited number of Wilder medals will be awarded to objects of *special* merit.

Packages of fruits, with the names of the contributors, may be addressed as follows: "American Pomological Society, care of James H. Kelly, Esq., President of the Western New York Agricultural Society, Rochester, N. Y." Freight and express charges should be prepaid.

The Maryland Horticultural Society.

The show for May included many fine tables, and was well attended. There was no meeting of the society.

The following awards were made by the committees:

Best six Fuchsias, \$2, Cromwell & Congdon; best three Petunias, \$1, best twelve Zonal Geraniums, \$2, and best basket of cut flowers, \$3, James Pentland; best 12 Verbenas, \$1, Thos. Fairley; best twelve double Geraniums, \$2, best 12 variegated do., \$2, best twelve greenhouse or stove plants, \$5, best display of Gloxinias, \$2, Wm. H. Perot; best specimen foliage plant, Certificate of Merit, Robt. J. Halliday; best six ornamental foliage plants, \$3, R. W. L. Rasin; best six Calceolarias, \$2, best hand bouquet, \$2, Archibald Brackenridge; best collection blooms of hardy flowering shrubs, \$2, Wm. D. Brackenridge; best table design of cut flowers, \$5, John Cook; best twelve blooms Tulips, \$1, August Hoen.

Amateur.—Best Fuchsia, \$1, and best six Tulips, \$1, Willie Feast; Pansies, \$1, Miss L. Martin.

Special Premium.—Thos. Fairley for handsome stand and hanging basket of Japan Ferns, \$2.

Honorable Mention.—A. L. Black, R. J. Halliday and S. Feast & Sons for general collections of plants; S. Feast & Sons, collection of Gladioluses; Mrs. Henry Stockbridge, Strawberries and Cauliflowers; A. Hoen, Lettuce; G. W. Ridgely, Asparagus; Alex. Frazier, Asparagus and Rhubarb.

The Norfolk (Va.) Horticultural and Pomological Society

Held an exhibition of fruits, flowers and vegetables in the Masonic Hall of that city on the 22d and 23d of May. There was a very large collection of exceedingly handsome plants and flowers, and some fine specimens of fruits and vegetables displayed, and the three long tables, extending the full length of the hall, contained an array of beauty in the way of flowers, &c.

On the opening of the exhibition, President G. F. B. Leighton introduced W. H. Leighton, Esq., who delivered an eloquent and beautiful address.

The list of contributors was a large one, and the display was a varied and interesting one.

Pleasure Grounds and Greenhouse— June, 1879.

By W. D. BRACKENRIDGE, Florist and Nurseryman,
Govanstown, Baltimore Co., Md.

Flower Garden.

It is presumed that by this time the main portion of all plants intended for the decoration of the beds on the lawn and other reserve borders have been planted and taken hold of the ground; and to encourage their growth frequent use of the *hoe* is very necessary: first, to keep down weeds when young, and it also prevents the surface from cracking after heavy rains. And should dry weather set in, water ought to be applied at the roots, giving a good soaking at once, so that the water will penetrate even deeper than the roots; for to apply it in this way is better than giving it in dribbles on the surface, which will be apt to scald the plants in hot weather, and the heat of the sun will, if the surface is kept loose, draw it in that direction.

Whether the system adopted in planting out has been that of the ribbon or carpet pattern, it will in both cases be necessary during the summer to attend constantly to the pinching back of all twigs or branches of one kind that may be passing into another, so that the colors of the pattern adopted may stand forth well defined. Should the group be composed of mixed plants, then each should be so trained as to develop its individual character, and yet form a unique part of the whole group. A mass of single Petunias or Pompones Dahlias form very effective objects towards the fall, and the care required is little.

So soon as Spiræas, Deutzæas and Wigelias have done blooming, the old wood should be cut back or thinned out, so that new growths may be made early to bear blooms next year. Many people perform this work in spring, and it is often done with shears; but whether done with the knife or shears they deprive themselves of the wood that would have produced them flowers. Such things as Altheas should be cut back in spring, as these produce their flowers on the wood of the present year.

All creepers or vines on arbors and porticos should be trained and tied up as they grow. The majority of people commit the error of permitting the vines to grow too crowded with wood; in such cases they do not flower so profusely, neither are they so graceful.

Very pretty objects to mix in with Honey-suckles are the various kinds of Clematis; but as they do not last long in bloom it is not a bad idea to grow them on neatly-trimmed cedar posts suitably located on the lawn,—mixing in, as a background, the netted-leaved Japan Honeysuckle, which, when in foliage, is always pretty.

Towards the latter end of the month attend to the trimming of hedges; and should the weather prove very dry do not mow very often or cut the grass short, as this would admit of the sun singeing the crowns and roots of the grasses. Where the cutting is very short it is better to leave it to dry on the surface so as to supply some shade for the roots.

It is very desirable to a person of taste, who has a nice lawn and flower garden, that he can have a good woodland prospect from it; and if a sheet of water could be opened up it would add much to charm the scene; and should trees stand in the way of such prospects, now is a proper time to mark such, so that they can be finally removed at the proper season. We think pools or lakes of still water on a small lawn near a dwelling are neither desirable nor pretty. But what we can fancy is a clear stream of water running through a lawn, dilated here and there into small pools, below which rocks could be placed to form rippling cascades.

Greenhouse.

The end of the present month will terminate, indoors, in a great measure the charm which the varied kinds of Pelargoniums have afforded. To take their place a vast variety of other material are, or ought to be, at hand,—as Clerodendrums, Fuchsias, Gloxinias, Begonias, Gesnerias, Lilioms, Caladiums and Achimenes. Then there should be a goodly supply of climbing plants to train overhead; of these we name a few kinds, as *Cobea scandens variegata*, *Bugainvillea bracteata*, *Lophospermum Erubescens*, and two or three of the freest-blooming kinds of *Passifloras* and *Aristolochias*; these, if properly trained, will give shade during the summer, for that and a humid atmosphere are essential elements in the growth of plants at this season of the year under glass. A few plants, as *Crotons*, will require more light to bring out to perfection their varied tints of color; but such kinds of plants are exceptions to the rule we have laid down above.

Camellias are best managed if moved out of doors to some shady place; while Azaleas will do better by plunging the pots in a bed of coal ashes in a situation where they will receive an abundant supply of light and air.

We now come to talk of that favorite and graceful tribe of plants, the Ferns, and no collection may be deemed complete without at least a fair selection of the more free-growing kinds, by which we mean various varieties of *Adiantums*, *Gymnogrammas*, *Lygodiums*, *Pteris*, *Doodias*, *Blechnums*, *Selaginellas*, &c., &c.

The most of the family delight in shady places, but there are some kinds of *Pleopeltis* and *Polypodiums* which prefer to grow on dry rocks exposed to the direct rays of the sun, but such kinds are not desirable for decorative purposes, and like the *Davallias* and others with creeping root-stocks, are easily multiplied by divisions of the same. But the great majority of the graceful and free-growing kinds are very readily reproduced from sporules contained in the theca or capsules found on the under surface or margins of the fronds; these sporules consist of very fine brown triangular bodies, so light that the breath of a person will carry them into

the air,—therefore, when collected, should be placed in close paper capsules. To get such sporules to germinate, it is first necessary to fill up about half way some 6 or 8-inch flower pots with rough draining material, then over this some fibrous loam and peat until within *one inch* of the brim; then smooth off this surface with some fine earth, on which shake the sporules, then finish by settling all with water put on lightly, afterwards covering the mouth of the pot with a pane of glass. The whole ought then to be kept in a warm, humid, shady place, never permitting the earth at any time to become dry; and if proper care is given, in the course of three or four weeks, a filmy, greenish scum will appear on the surface; at this time a little air should be given to prevent this film from getting killed by mildew or damp, for these are the young plants in embryo.

On Grading Ground.

Messrs. Editors American Farmer:

There being but little to remark on vegetable growing this month, I shall eke out my notes with an introductory glance at the subject of *grading ground*—a branch in which I have had some experience; resuming the subject, with your leave, from time to time as opportunity favors.

Time was when it could be truthfully affirmed that "gardeners are masters of more knowledge generally, and have received a better education, than most other professional classes of persons." As Mr. Brackenridge recently reminded us, such is no longer the case. Gardening is simplified. A less amount of technical knowledge is required, and what knowledge we do possess is more one-sided than it used to be. Young gardeners in Europe cling fondly to the hope that one day they may be called on to fill the coveted position of head gardener, and thus they are stimulated to improve their minds in every required direction. Here there is no such incentive, and sufficient knowledge to get along in a situation is readily picked up by any handy man, however illiterate. But, even amongst the better class of gardeners, this one-sidedness to which I have alluded is readily noticeable. The writer is fully conscious of it in his own case; having, for want of sufficient motive, fallen behind in several branches of his business. The complaint, I fear, is general. I remember being called on by a gentleman to lay out a winding drive on an even grade from the public road to his residence. Few things, one would suppose, could be simpler than that, yet the gentleman assured me that his gardener and he had worked at it day after day until their heads ached and could not make it out. Amongst fruits, flowers and vegetables, the gardener was thoroughly at home.

It requires some taste, judgment and experience to be an expert grader, yet every operation connected with it is of the simplest kind. Facility in grading might be useful to the farmer, particularly in underdraining. When the fall is but slight, an evenly graded bottom is of the utmost consequence. Rarely, indeed, is this attended to, unless where an engineer is employed to carry on the work. Just where the

work of the farmer or gardener should end, and that of the engineer or landscape gardener should properly begin, will form the subject of my next communication. Meantime, allow me to give an illustration or two as to how appreciative of improvements some people naturally are. Some 25 years ago, a wealthy gentleman who wanted to be abreast of his neighbors in rural embellishment, resolved to have a handsome carriage drive, and asked me to lay it out. Rather proud of my commission, I took infinite pains to have it just right. By the time I had it staked out and the grade settled my promised help arrived, but to my consternation they brought a double ox-team, with plow and scraper, and went straight ahead making nine-pins of my stakes, and raising a lofty ridge of mud that did them much credit. The mound-builders, being near relations of the boss, could do as they pleased. When the master returned he was so profuse in his compliments over the handsome drive that I did not spoil the fun by an ill-timed apology.

I recall a case, too, where a new road was made for public use, shorter and better in every respect than the hilly, narrow and deeply-rutted old one, yet it was open fully six months before the neighbors condescended to patronize it.

JOHN WATSON.

Baltimore Co., Md.

Bedding Plants.

Messrs. Editors American Farmer :

Your correspondent, N. F. F., in May No., has entirely misunderstood the intention of my article on bedding plants. Every one who has had any experience in bedding out ornamental foliage plants in carpet beds knows that in our climate the Centaureas have proved very uncertain of late; I say of late, because years ago when Centaurea Gymnocarpa was a new thing and the seed was not easily obtained, the plants grown from cuttings did not die out in summer as the seedling plants now do. It is hard to find a plant that can take the place of the Centaureas, and I use them largely as a matter of course. Even at this early date I can see a difference between the plants grown from seed and those from cuttings, and hereafter I shall go back to the cuttings. A little more care is necessary with them to prevent them from running into bloom. N. F. F. seems to think that I wish to discard Coleus and Achyranthus from our list of bedders. Nothing was further from my meaning; I only wished suggestions for more variety. Of course I would not think of recommending Crotons for general bedding purposes; I only asked if any one had ever tried them. Having a large old Croton Pictum to cut down, I thought I would utilize the great quantity of cuttings, which I have done and now have handsome young plants enough to make a fair-sized bed, and shall try them out. My specimen Crotons I would not think of putting in the open air at all, as I think both Crotons and Dracenas can be grown into better specimens under glass during summer. There are many plants which, from their expensiveness, will never be popular bedding plants which might be used for the pur-

pose when circumstances allow it. N. F. F., in an article last fall, seems inclined to give up the Verbena. Now, the Verbena is an old favorite of mine, but it has been acting so badly of late that I was almost inclined to agree with Mr. F.; but I learned a hint from some beds I saw last Autumn which has inclined me to think that if we change our treatment of the Verbena it will be as useful as ever. That is, we must abandon the growing of named varieties from cuttings just as we have abandoned named sorts of Pansies and Cinerarias. The beds I speak of were in charge of a man of whose ability as a gardener I had a most profound contempt, and were with him an accident. Not having a sufficient supply of bedding plants, he sowed beds of Verbena in the open ground. The plants were left much too thick, and were rather late coming on, but from August till November they were very fine, and had his seed been of a better strain the show would have been excellent. Now, I would improve on this treatment by sowing the seed in a hot-bed, say March 1st, pot them off and transfer to cold frames. Then by the time they are well-established in the pots the weather will be mild enough to put them out. Now, I feel sure that young Verbenas from seed set out before they become starved in the pots will give a good growth and bloom the whole season, and if care is taken in saving the seed just as fine a show can be had as from cuttings. If N. F. F. will come to see me he will find I have not abandoned either Coleus or Centaureas, though I must admit that my Glauciums are looking fine.

HORTICOLA.

Cottage under the Hill, May 15, 1879.

Vegetable Garden.

On the arrival of June, the excitement of sowing and planting for the first half of the season is mostly over, but several important crops have yet to go in. The main crop of tomatoes should be planted out from the middle to the last of the month. At the same time plant out peppers, and also a patch of early cabbage—say Early Flat Dutch—for fall use. In the early part of the month melons may be sown. Succession crops of bush beans, corn, okra, cucumbers and squash may be planted. Table beet for winter use will be very tender if sown now on well-manured land, but sometimes the drought is too severe to let it get a good start. Seed-beds of cabbage, celery, &c., should be kept free from weeds.

In June the ground will be clear of many of the first crops, and plowing for fall crops will be in order. The advantage of a little forethought in mapping out the garden in early spring will now be apparent. You find you have a piece of ground for everything, and each crop in the most suitable spot at your command. Let us experiment. There is more than one way, for instance, of raising and keeping celery; suppose we try various ways and determine which is best. I lost some celery winter before last by keeping it too warm, and last winter by covering too little. Still we had good celery in April. I find mangels hard to keep; they are so soft. Will try them in pits in the usual way, unless new suggestions are forthcoming.

JOHN WATSON.

The Grange.

The True Work of the Grange.

Messrs. Editors American Farmer :

The article in your February issue, entitled "The Grange: Its True Work, Its Weak Points," by a "Virginia Granger," is well and clearly written, and a true description of the rise and decline of the enthusiastic progress of the grange movement. The writer of this fully agrees with him in his description of the capabilities of such an organization; also of its failure to carry out heartily the great true principle enunciated by its founders, and upon which its whole admirable tone depends. The description of the universality of the laws which govern trade, of the common imperativeness of every man to take care of his own, and of the necessity for the interworking of every legitimate business, is good and true. But in regard to the necessary failure and impracticability and consequent abandonment of all coöperative business schemes of the grange, your correspondent cannot agree with him, and will take this opportunity, if not encroaching too much upon your valuable space, to express his own views as a Maryland Granger.

The frame of the organization of Patrons of Husbandry is a most admirable one, patterned upon the model which forms the strength of the strongest government. Three-fold in its administration, born out of the soil, it takes its rise from the purest source, from the bosom of the people, from the houses of the neighborhood; the subordinate, the State, the national,—each administered by the master as the executive, the executive committee as the ministry, the grange as the legislative, the whole forming the order of the Patrons of Husbandry. The Grange as constituted, ought to be, and is, capable of accomplishing the *wants* of the farmer. If it does not now it should and will in the future. It is not destined to die; its necessity is too great, its organization too vital.

As said, this order is capable of accomplishing the *wants*, all the *wants* of the farmer. If it were to be confined only to the experimental details of theoretical and practical farming, to social jubilees and to educational lectures, it would but occupy the place of a simple local farmers' club, and would have no necessity for further extension. But its perfect machinery, its complex nature, its national character, fit it for the comprehension of these, and, moreover, for the all-important, all-engrossing, all-comprehensive "business feature," which is, in fact, the living feature, and, if more need be said, the *cause which gave it birth*.

This business arm of the order cannot be most successfully wielded in its broadest sweep without the active coöperation of the whole, and that this has been very remarkably performed, to a limited extent, is exemplified by the successful workings of grange agencies in several of the States, and especially to the point here in Maryland, but only on a small scale comparatively, and that, too, by but a limited support of the order in this State.

It need not be, cannot be, true, that "most of the business schemes are bound to fail, and simply because the best business men, who are ne-

cessary to ensure success, cannot be had to conduct them." For is not the very opposite of this assumption the fact in that most of the commission houses in the city of Baltimore are carried on by men who were countrymen, country-bred, country-trained, country farmers, and in many cases, too, of farmers who have failed at farming, and by some means set up, then kept up, afterwards puffed-up commission merchants.

It is very true, indeed, that as farmers and grangers we should endeavor "to live and let live," and recognize the equal justice of all legitimate interests to be sustained, and in so doing promote the general welfare. But for the grange to manage its own business affairs, it is by no means necessary to antagonize other industries or interests. For the converse of this is more nearly true,—as it will more naturally, actively and effectively stimulate legitimate intercourse. Because we need blacksmiths, storekeepers and middlemen, is no reason we cannot choose our own blacksmiths, storekeepers and middlemen, when the old ones charge three prices for doing the work we can do better ourselves.

The grange, constituted as it is, and composed of the sound material that make up its being, is as capable of providing for the needs of the farmer in a business capacity, as of elevating his moral, social and intellectual status; and if, in the past, such an institution as the commission agency was necessary to the farmer, in just the same respect ought the grange agency to supply his want, with a difference in two very important particulars in favor of the grange agency. In the first particular the grange will sell his produce and furnish his supplies at a moderate sustaining rate, free from the exorbitant charges and dubious dealings of the commission merchants, managed in his own interest by himself. In the second particular, the grange agency is constituted to deal on a cash basis, thereby saving the profits made by credit transactions, and teaching patrons to know at all times how they stand.

Now, in regard to this important particular, the writer desires to say a few words, and if, in what he says, he would seem to advise a departure from the cash principle, on a closer examination it will be found no departure whatever. In the falling off of the grange in some quarters, the earnest patron asks the question: what is the cause of this defection in this part of the State more particularly than in others, and the answer must be: either indifference or something peculiarly affecting the people of that section,—a something, a want which the grange has failed to supply, and which was a principal incentive to its inauguration. That it is not indifference, not want of appreciation of the scope of the grange, is abundantly evidenced by the candid expression, in nearly every instance, of devotion to the cause, but failure in the means. The cause must be in the work of the most important feature: the failure of the business arm to reach the wants of such a section. Now, as patrons, as members of the common brotherhood, it is our bounden duty to render such assistance to the weak as they may be in need of so far as we are able and the interests of our family will permit, and we should endeavor to provide the

remedy to fill the want in whatever section any peculiar remedy should apply.

If the tobacco interest needs a man to attend to its business, he should be supplied; the compensation to perform this office would be maintained therefrom. If the grain interest needs a man upon the exchange, the compensation to perform this office would be maintained therefrom. If the fertilizer trade should need a special fund to secure the best articles at the lowest rates, it should be supplied, and compensation to support the same would be derived therefrom. If the household, implement or grocery supply trade should demand an energetic and careful selection of the needful articles, this should be supplied in the interest of our consumers; the compensation to maintain this office would be maintained therefrom. And if certain sections or local interests should feel the want of either one of these more peculiarly than another, its call should be respected. And now, if any one section, constitutionally, historically trained in such a way of livelihood, require safe advances, such as clover seed, plaster, guano for tobacco beds, or some sudden urgent need, or even of money, funds should be raised therefor (how? let intelligence dictate;) compensation to supply which would also be derived therefrom. Now, in regard to this last clause we must proceed cautiously, inasmuch as we may seem to derogate from the principles enunciated in the "declaration of purposes" of the order: "to discountenance the credit system, the mortgage system, the fashion system, and every other system *tending to prodigality and bankruptcy.*" But we advise it for the purpose of educating a habit of, and necessity for, dealing with the grange agency and temporarily only, with the following specifications: to educate a return to a strictly cash system and endeavor to work to bring about the same by a certain specified period of time and for the following reasons:—We see a large falling off of the grange in Southern Maryland, where the credit system of commission merchant advances has prevailed, because the kind of staple raised requires a long period of time for the realization of the profits and on account of the want of banks in that section. The wise physician will not attempt to cure a life-long habit of the excessive use of intoxicating liquors by a sudden total abstinence from the same, but by a gradual diminution of its use, and together with the application of the pure moral stimulant and education toward the higher aim of life. Even so we cannot change the business habits of a life in a moment, nor teach into the custom of the every-day man (or the common run of men) the practical advantages of the rigid cash system over the ruinous mortgage by a virtuous resolution.

Now, it can be shown, if necessary to be explained, how the means to carry out a safe advance on a moderate scale can be performed; but the writer of this has only endeavored to show the necessity for the same, if grange in Maryland would do its whole duty to the brotherhood, and by this only means save to the order and the good cause the united and whole strength of its membership within its jurisdiction.

A MARYLAND GRANGER.

Some Agricultural Statistics.

The entire value of the lands appropriated by the United States for agricultural colleges is.....	\$ 14,849,397
The custom-houses of New York, Boston, Chicago, Cincinnati, St. Louis, San Francisco and Philadelphia, were to cost.....	26,500,000
The entire value of farm land in United States, per census of 1870.....	9,362,000,000
Value of live-stock, including horses, mules, milch cows, oxen and other cattle, sheep and swine.....	1,508,000,000
Estimated value of products of farms in 1893, such as wheat, rye, oats, barley, corn, hay, potatoes, cotton, tobacco, buckwheat, rice, etc.....	2,447,000,000
In 1860 value of real and personal estate invested in manufactures was.....	1,050,000,000
Value of products.....	1,900,000,000
The Union Pacific Railroad cost.....	36,000,000
Receipts, deducting expenses.....	6,000,000
In 1875 there were derived from custom duties.....	157,000,000
From spirits, tobacco and fermented liquors.....	91,000,000
In 1870 nearly one half of entire population were engaged in agriculture.	
In 1860 only one-sixth of the entire population were supported by manufactures.	
In 1870 farm implements of United States were valued at.....	\$ 337,000,000

But then the tariff on iron entering into manufactures of articles used by them ranged from 40 to 53 per cent., while from revolution up to 1824, including two wars, it never exceeded 38½ per cent.

In 1856 the importations of iron, steel, etc., amounted to.....	\$ 24,800,000
To collect customs of United States, salaries, etc., costs.....	10,300,000
Expenses agricultural department.....	188,000
Railroads of United States in 1855, when completed, were estimated to cost.....	\$1,090,000,000
Their receipts were.....	91,000,000
But amount of capital stock paid in was.....	493,000,000
Dividends from nothing up to 22 per cent.	
In Maryland the agricultural colleges and the agricultural societies got from State in 1876.....	\$ 16,000
Commission of fisheries.....	13,000
Salaries State Fishery Force.....	36,000
St. John's College, Baltimore Female College and Academies of State.....	52,000
Salaries of Governor, Comptroller, Treasurer, Librarian, Commissioner of Land Office.....	24,000
In 1860 the value of real estate was.....	65,000,000
In 1860 the value of personal estate was.....	298,000,000
But in 1893 the horses, mules, sheep, swine, milch cows, oxen and other cattle, were worth.....	14,000,000
In 1876 the dairy interest of the United States was estimated at.....	600,000,000
The value of the eggs received in New York in 1872 was over.....	6,000,000

The above items are offered in continuation of those submitted by the committee of Brighton Grange, No. 60, and published in the *Farmer* of May. They are given without comment.

PIONEER, MD., No. 38.

Worcester Co., Md.

The Tax Question in Maryland.

In accordance with the recommendations of granges of Howard county, a meeting was held, last month, at Ellicott City, which was the largest meeting held at that place for many years. Among those present were many prominent men of Howard, Montgomery, Carroll and Baltimore counties,—among those Governor Carroll, whose residence is in this county; A. Bowie Davis, Esq., of Montgomery, and Messrs. Gorman, Merrick, Wootten, Clark, Dorsey and

others. Mr. Henry O. Devries, of Howard, was called to the chair, and F. C. Pue appointed secretary. A committee was then appointed to make a permanent organization, who nominated the following officers: President, Hon. Wm. M. Merrick; vice-presidents—James Garrison, first district; Anthony M. Johnson, second district; Joseph Barlow, third district; Henry Forsyth, fourth district; Charles G. Linthicum, fifth district; Reuben J. Dorsey, sixth district.

Mr. Merrick took the chair amid much applause, and addressed the convention at some length on the general objects of the call, remarking that taxation is the price that we pay for a good government, but government may be abused, and then the people have a right to complain; that we should ignore political partisanship in the local administration of public affairs. Alluding to Boston as an admirably well-governed city, he said that in local affairs the best and most capable men should be chosen, irrespective of political affiliations. He instanced Howard county as an example to the other counties of the State for the wisdom and prudence with which it had administered its county affairs.

Mr. Davis, of Montgomery, and Gov. Carroll, of Howard, also spoke upon the subject of taxation in their respective counties. The late period of the month at which the meeting was held and our crowded pages at the time, preclude our giving more than a small portion of the proceedings. A committee of one from each district of the county was appointed to draft a preamble and resolutions for the consideration of the meeting, who, after retiring for consultation, made a report, and the resolutions were adopted *seriatim*, with but little discussion. (Several of them were of a local character, relative to the finances.) We give the substance of the others:

Resolved, That we, taxpayers of Howard county, in mass convention assembled, declare that in our coming political campaign, will exact and labor for the nomination and election of such persons as will pledge themselves to the enactment of laws which will bring all property within the assessment basis for State, county and municipal purposes, in accordance with the 15th article of the bill of rights."

Resolved, That the rapid development of the grain-growing West, its favored rates of transportation to the seaboard, require that Maryland should husband well her advantages and resources by protecting her land capabilities in all her staples.

Resolved, That in the judgment of this convention something in the law or administration thereof is wrong in our road system, inasmuch as our roads fall far below those of some of our sister counties, and do not meet the just requirements of the traveling public, nor invite investment of capital in our land.

Resolved, That a reduction of the salaries of all county officials is, by reason of the shrinkage in values, necessary.

Resolved, That it is but proper, in advance of primary political meetings, thus to initiate our purposes by affirming that we will hold to strict accountability the standard-bearers in the com-

ing campaign for the faithful fulfillment of promises looking to the abatement of the grievances implied by the resolutions of this meeting.

Resolved, That this convention do recommend our sister counties to take similar action, and we do invite them to meet us in a State convention to be held in Baltimore second Tuesday of August next." The meeting then adjourned.

BALTIMORE COUNTY GRANGE, No. 13, will hold its regular quarterly meeting on Thursday, June 5th, at 10 A. M., at the hall of Centennial Grange, on Dulany's Valley Pike. This is the meeting for the annual election of officers. There are thirteen granges in the county entitled to representation.

FOREST GRANGE, No. 16, Prince Geo's. Co., Md., will hold a public meeting on Thursday, June 11th, at its hall near Brick Church Station, and invitations have been extended to State Lecturer Jas. S. Robinson, State Agent H. O. Devries, and Wm. B. Sands, Secretary of Baltimore Co. Grange, to deliver addresses on the occasion. This grange is moving on the subject of inducing immigration to the section in which it is located. A circular will be distributed, by authority of the grange, through some of the Northern and Northwestern States, pointing out the advantages of the soil, climate, markets, &c., of Maryland, and the cooperation of numerous large landholders is already pledged to making a success of the wise endeavor the grange is thus inaugurating. Dr. J. E. Fairfax is Master, and Wm. Berry Secretary of Forest.

Loudoun (Va.) Pomona Grange.

Masters, Editors American Farmer:

The Loudoun Pomona Grange held its second regular meeting for this year at Hamilton, on the 16th and 17th insts. There was a pretty full attendance of delegates and a number of visiting 4th degree members of P. of H.

The regular business was transacted in a satisfactory manner.

On Friday the grange was opened to the public and an address delivered by Mr. Vonderhoff in favor of establishing a joint-stock manufacturing company at Purcellville, Loudoun Co.

The grange in regular session endorsed the scheme and recommended it to the favorable consideration not only of the members of the P. of H., but of the farming community in general.

Under suggestions for the good of the order, county deputy Bro. Thomas E. Taylor suggested the propriety of the grange giving some premiums for the best essays on agricultural topics written by members of the order. The consideration of this was postponed to the next meeting.

It was determined to hold a grand grange basket picnic some time during the last of July or first of August, to which the general public will be invited, and at which we hope to have addresses from not only our own State Master, but from the masters and other officers of the adjoining State granges.

Due notice of the picnic will be given by publication. Respectfully,

ALFRED L. B. ZEREGA, Sec'y.

Work for the Month—June.

Hot summer suns and probable rains will make the crops grow and the weeds as well. The fight against the latter must be waged vigorously and without respite.

The Corn Crop.—The cultivation ought to be kept up promptly and continuously to destroy grass and weeds, and maintain an open condition of soil.

Potatoes.—From the middle to the 20th of the month the main crop should go in; since, if earlier, the tubers will be forming just as the usual dry weather of summer is at its worst. To secure a good crop good land and good cultivation are both requisite. A good piece of sod, or land in which considerable vegetable matter is present, suits the crop best. Ashes, bone dust, salt and plaster are all good fertilizers for the potato, and so are Peruvian guano and superphosphates. Rough, long manure ought to be avoided. If possible cut the seed a few days in advance of planting, dust with plaster and allow to dry in a cool place, and do not expose more than necessary to the sun and air when planting, but cover in the drills rapidly.

Tobacco.—Our advice for the two last months still holds good. Shipping tobacco should be pushed to completion. The longer tobacco now hangs upon the stalk or in bundles upon the stick, the worse for it,—it will blacken more and more in hot murky weather; when in bulk it improves. We hope our advice upon planting will be remembered and strictly followed.

Root Crops.—There is time to put in crops of these which have so many nutritive and health-giving properties to recommend them. Almost any fair soil will give ample returns, with careful attention, for the expenses and trouble of their production. Sugar Beets, Mangels and Carrots may be still sown. They should be sown in drills wide enough apart to allow of cultivation by a horse. The seed is best put in by a hand drill, and the roots should be thinned to stand twelve inches apart for mangels, a little less for beets, and from six to eight for carrots. Frequent cultivation is necessary. Ruta Bagas are sown in this latitude from the 20th of this month to the middle of July.

Hungarian and Millet.—Crops of these should go in early in the month, on land naturally good or enriched by some good fertilizer.

Fodder Corn.—Crops of this may be put in till August 1st, and what is not needed for feeding green can be cured.

Hay Harvest.—Clover and orchard grass ought both to be cut as soon as fairly in bloom, and when not more than a third of the blossoms of the former have turned brown. Do not let clover lie too long in the swath, but cock it up quickly and let it cure. Orchard grass cut early, when fairly in bloom, is nutritious and much liked by all kinds of stock. Allowed to become fully ripe, it is woody and indigestible.

Wheat Harvest.—Have machines, hands, animals, &c., ready. Do not let false economy prevent your having labor enough to push your work promptly on.

The Orchard and Fruit Garden.

Bearing trees in the apple orchard sometimes have their tops crowded by a dense growth of slender shoots, thrown out along the main or heavier limbs—commonly called crater-sprouts—which defeat the aim of the grower, whose object is to keep his trees open-headed, to admit more freely, for action upon the fruit, sun-light and air. Where this is the case, this month will be a good time for their removal, and that of suckers or sprouts from the base of the tree. If carefully displaced with chisel or pruning-knife, the work will be far more effective, so far as keeping the trees rid of such superfluous growth goes, than if performed earlier in the season. A vigilant eye should be kept on the caterpillars, as their tents are easily destroyed, and while the insects are small they are housed closely in the tents early in the morning, which affords opportunity for complete triumph over all its ravaging abilities. Collect, burn or otherwise destroy every nest or tent to be found. Now, too, a little labor appropriated to trapping and destroying the codling-moth will be found "to pay." Old cloths or rags of any kind, folded together in three or four thicknesses, and laid in the forks of the trees, will be found to answer the purpose nearly as well as any patented device yet in practice. Examine the cloths thus placed, once a week; remove and destroy the worms found therein, and put the traps back.

As there is good prospects for an abundant crop of peaches this season, the grower who expects good remuneration for capital and labor invested, should now see to it that the orchards are kept in the best possible condition, so that the fruit may be brought to a high standard of excellence. We have visited a few peach orchards during the shipping season in past years, (we have too much respect for their owners to designate their locality,) where it would have been difficult to tell which the owners were trying hardest to grow to highest standard—the coarse weeds or the peaches; of course such growers were of the (too numerous) slipshod family, the kinsmen of which find their way into every trade, calling and profession. It is too soon to offer any suggestions as to handling the fruit, but we will likely refer to this in the next issue of the *American Farmer*.

If pear trees are too thickly set with fruit to ripen up good-sized, well-colored specimens, remove a sufficiency while small to insure this end.

In the *fruit garden*, where everything is kept, as the name would indicate, in good garden style, the surplus of strawberries required for family use, if carefully gathered and sent to market, will help to defray the expenses of labor, &c. We mean by "carefully gathered" that the little inferior fruit should not be placed indiscriminately in same baskets with the larger and finer berries, and thus ruin the sale of both.

Where raspberries, blackberries, gooseberries, &c., are not mulched, the ground will require frequent stirring to keep down weeds, and retain better the moisture of dews and the rains during the hot, dry season in which they ripen. We tried a little experiment a couple of years back

in relation to the value of frequent stirring of the soil that fully satisfies us as to its efficacy in promoting vigorous, *healthy* growth of plants and fruits of the kinds named above; and of the two ways of attaining similar results, mulching or frequent working of the soil, our experience favors the latter.

The Montgomery County Dairymen's Association

Met at the Sandy Spring Lyceum, on Monday, the 5th of May. It being in the midst of corn-planting, the members did not turn out in full force, yet there was a sufficient number present to make a most interesting meeting. The newly-elected officers took their seats. Executive committee made a report on the finances of the body. Committee on markets report the tendency of the markets downward for all dairy produce; the very best grades of butter selling at 40 cts. Dr. Frank Thomas, well known as a thorough practical and successful dairyman, gave us a most interesting essay on "The best system of supplying cows with green food in winter." He recommends highly the use of cabbages,—thinks them preferable to roots, and more easily raised. He also thinks well of orchard grass, as giving the cows a very early and also a late pasture: thus making the season of dry food a short one. A discussion arose in regard to the French mode of keeping green fodder in pits or trenches.

Our president, Geo. L. Stabler, gave us an account of a visit to the "Oakland Farm" in Howard county, where he saw the process and the maize in the pits. On motion of E. P. Thomas, a committee was appointed to make experiments in this system of keeping green fodder, and to report at the February meeting of 1880. It would be useless to try to embody the proceedings of our last meeting in this short notice. Suffice to say that many questions were asked and answered, all of which were of importance to the dairyman, and when the time to adjourn rolled round we all felt more alive to the importance of our society.

Adjourned to meet on the first Monday in August, at the same hall. All interested in the dairy will be welcome.

CHARLES F. BROOKE, Sec'y.

Merino Sheep Shearing.

The beginning of May is the time for sheep-shearing in Wisconsin, and we find results of the clip of one of them at Caldwell's Prairie, as given in the *Prairie Farmer*. It will be of interest to many of our readers to give the results, showing the weight of fleece and carcass,—the three first-named in each class bearing off the prizes:

American Merinoes.—Rams, three years old and over: 1, fleece, 29-02 lbs.; carcass, 115 lbs.; 2, 27-09½, 114; 3, 23-01½, 187; 4, 22-12, 140; 5, 21-09½, 123; 6, 20-15, 128; 7, 20-09, 145; 8, 19-05, 113; 9, 9-01, 141; 10, 18-03½, 114 lbs. Rams, two years old, highest fleece, 23-12½, and lowest, 19-02 lbs.; carcass, highest, 132; lowest, 89 lbs. Rams, one year old, fleece, highest, 12-10 lbs.; lowest, 14½

lbs.; carcass, 100 to 80. Ewes, three years and over, fleece, 15-04 to 15 lbs., and carcass, 87 to 78. Ewes, two years old, 16-12 lbs. fleece to 12-04; carcass, 94 to 68 lbs. Ewes, one year old, 11-13½ to 12-07½ lbs. fleece; 69 to 45 lbs. carcass.

Delaine Merinoes.—The difference in the fleeces and the carcasses in this class are remarkable, and we give the particulars:

RAMS—THREE YEARS OLD AND OVER.			EWES—THREE YEARS OLD AND OVER.		
Prize.	Fleece.	Carcass.	Prize.	Fleece.	Carcass.
1	15-01	119	1	14-08½	65
2	15-05	100	2	12-09½	86
3	23-10	129	3	15-10	73
..	18-01	167	..	15-01	79
..	19-10½	138			
RAMS—TWO YEARS OLD.			EWES—TWO YEARS OLD.		
1	15-09	96	1	10-10½	57
2	18-09	113	2	12-12	81
3	15-08	85	3	14-11	74
..	18-07	98	..	14-12	80
			..	11-03½	71
RAMS—ONE YEAR OLD.			EWES—ONE YEAR OLD.		
1	14-10	87	1	12-01½	59
2	16-14½	109	2	11-14	57
3	12-06	83	3	11-04	53
			..	9-02	65
			..	12-12	81

Sale of Short-Horns.

The advertisement on another page, of the public sale of 100 head of the herd of this breed of cattle, belonging to the late Hon. Brutus J. Clay, of Kentucky, will not fail to attract the attention of those wishing to obtain animals of the highest merit. There are few herds of Short-horns in the West, probably, that can vie in purity and celebrity with those of Mr. Clay; and it will be seen that the most favorite strains are embraced in the list. We hope some of these animals will find their way to this and the neighboring States.

Short-Horns in Frederick Co., Md.

A correspondent at the St. Mary's College, Emmittsburg, writes us:

"The stock here is very fine at this time, and the calves now produced are got by a beautiful red bull from Kentucky, brought here last November a year. There has been quite a demand for calves during the past winter, and several went to the eastern shore of this State. The Rev. Dr. McCloskey desires me to express his thanks for your frequent kind words to your friends in regard to his stock."

We notice that at the sale of Short-horns of Sam'l Rutter, of Manchester, Pa., held on the show-grounds at York, on the 18th ult., there were purchased for the College herd a yearling bull and a heifer, at \$118 and \$120 respectively.

HEAVY GAIN ON CATTLE.—Mr. William F. Pannell, of Harford Co., Md., has twenty steers, purchased in January, their aggregate weight now being 21,270 lbs. They gained during the month of March 1,670 lbs., or an average of 83½ lbs. each. The average gain per day was nearly 2½ lbs. on each steer. They are principally grade Short-horns.

Veterinary.

The *Canada Globe* gives the following replies to questions propounded to it:

TO RING A BULL.—Steel rusts and copper does not. The steel ring might rust at the joint so as to weaken it seriously. Beyond that we do not know that copper has any advantages.

CURE.—What treatment would advise for a horse having a curb just starting on his legs? Give the animal rest, and put on a high-heeled shoe. If there is inflammation in the affected part subdue it by bandages kept constantly wet. When the inflammation has subsided, apply a mild blister composed of one part biniodide of mercury to eight of lard. Repeat the blister two or three times till the swelling is gone. If the blister does not reduce the swelling, touch the curb with the hot iron, and then blister.

CAKED BAG.—"I have a cow that calved about two weeks ago, but as yet she has given very little milk. After she calved the right side of the bag swelled and became quite hard; then the left side swelled in a like manner, and the right side became soft as before. Sometimes she would give about half a pint of milk, and other times not any. Please let me know how a cure would be effected. Reply: The best thing will be to put the calf to her, and if the bunting of the udder will not disperse the caked contents, a vigorous hand-rubbing should be administered. If there is no heat or fever in the udder, a little weak camphorated spirits may be rubbed in.

COW LOSING MILK.—"Will you give us a remedy for cows leaking their milk?" This is a difficult thing to alter. An occasional rubbing of the teat with tallow is sometimes effectual. The leaking may also be stopped by a small India-rubber ring being put around the teat, tight enough to constrict the channel but not so tight as to torture the cow. A spot of collodion dropped on the end of the teat will also close up the orifice. If this is used it will have to be repeated every time the cow is milked, but we are told that constant application of it will gradually narrow the hole in the teat.

The Tobacco Supply.

A correspondent of the *Tobacco News*, writing from Glasgow, Scotland, lifts up a voice to the tobacco-growers of the United States as to the danger of further flooding the European markets with a "large amount of rubbish," which he says a large crop now means, instead of as heretofore was the case in "the good old days," when tobacco was cultivated with care, and when only good and fine found a market; a large crop generally meant a good one, and it was welcomed in the markets of the United Kingdom. The same writer regrets to be obliged to record it as a lamentable fact, that "in this age of progress the cultivation of tobacco, in place of showing improvement, shows year by year a retrogression. In the \$5,000 hogsheads of American tobacco now in

the warehouses of this country there is only a very small proportion indeed which would have been ranked among the medium of twenty years ago. The great bulk of the stock might as well be called anything but tobacco, and would exhaust a vocabulary of disparaging epithets to characterize it. The 'hands' may be the hands of tobacco, but the flavor is the flavor of cabbages."

The necessity of a change in the manner of cultivation and curing is urged upon our farmers—not that a decrease in the quantity is deemed requisite; but there appears to be an erroneous impression in the United States that "the American is the tobacco of the world," but it is not so considered in Europe, as it may be seen at a glance at a price-list, where, in the leaf, it figures at the bottom. "Even in strips, (says the same writer,) it does not compare well with the prices of some other growths unstemmed. And yet it might be so. If American tobacco were the tobacco of twenty years ago the consumption of other growths would soon become that of twenty years ago; but let not your shippers think that our manufacturers prefer a hoghead of dirty, dingy green refuse to a bale of good Java, Japan, or several other growths. For this reason I am not so much an advocate for reduced production as for improved cultivation. Let us have as much colory and bright tobacco and as much substantial dark as possible, and so long as the elements remain fickle we are not likely to get overstocked; but a continuation of present practice means nothing but labor lost to all concerned."

The considerations herein presented should induce the tobacco planters of our own and other States to the south of us to avail of the advantages presented in the process of curing, &c., as recently introduced into Pennsylvania by the Tillotson Bros., and of that of the Barnett process in Virginia, as presented in our last by Maj M'Cue.

CHEESE FACTORY IN MD.—The *Laurel* (Prince George's Co.) *Gleaner* says that a number of gentlemen of Montgomery, Howard and Prince George's, met at that place on 13th ult., and executed and acknowledged a certificate of incorporation for a joint-stock company to manufacture cheese, and elected the following officers for the first year, as follows: John Waters, president; Columbus Brashears, secretary; Joseph Darby, treasurer; and C. C. Weston, Caleb Carr, Alexander Carr and Harry L. Carpenter, board of directors.

The cheese is to be manufactured in Prince George's county, near Joseph Darby's residence.

SUGAR-BEET ASSOCIATION.—This company, recently formed in Harford Co., Md., met at R. B. M'Coy's on 2d May.—R. B. M'Coy, president; C. C. Kinney, vice-president; W. Scott Whiteford, secretary. A letter from the managing director of the Delaware Beet-Sugar Company (Lee Pusey) was read, stating they had the stock subscribed for factory, contracts made for growing the beets the present season, and would pay \$4 per ton for beets at any station on the P., W. & B. R. R., the beets to contain 10 per cent. of sugar.

Also a communication from Andrew H. Ward, of Bridgeport, Mass., stating he had made sugar from beets on the common sorghum pan for a number of years and proposed to continue the same. He sold his raw sugar to the Boston refineries. Other reports describing the manner of raising beets were also read.

Home Department.

June 1st.

The blackberry bush is a bride to-day,
For she wears a bridal wreath,
And the petals fall from her snowy crown
On the grass flowers nursed beneath.

There are crowds of daisies everywhere,
And always beside them the clovers;
So faithful the pink blossom is to the white
They surely are pledged to be lovers.

The violet, under the dark green leaf,
Has gone to sleep and to dreaming;
If flowers—and maidens—would tell their dreams,
Why, who would care for their seeming?

From the high cool sides of the sheltered rock
Falls a wreath of wild grape-vine;
But the fairy fingers of slender stems
Have swung their last columbine.

Not long ago, in the early grass,
Nodded the dandelion;
But the summer silvered her yellow locks,
And zephyrs set them flying.

For the first green sweetness is out of the world,
And the first bloom off the flowers;
And a first farewell has silently come
From the vanishing woodland flowers.

"Farewell," said the wind flower as it passed,
And the crocus nodded a gay "good-day,"
And the eye-brights laughed, and called "good-bye,"
As they chased each other away.

"Farewell, farewell!" sang the chorus of
Sweet things, as the spring went "bye-ye,"
And the fruit trees, dropping their fragrant blooms,
Whispered many a soft "good-bye."

But this is a parting that has no pain,
A loss that is not of death;
For strong and green is the tree, and more sweet
Than the blossom the young fruit's breath.

Strong and green are the hedges grown,
And the blackberry decked as a bride,
While the strawberry and the dewberry rock
Their little ones side by side.

There's a deep, deep shade in the heart of the woods
That shuts out the summer sun;
There's a deep, deep rest in the heart of the plant,
For the hope of the spring is won.

Oh, come! if you love the later flowers,
Where the meadow grass is tall,
And find where the pale, pure primrose grows,
The dearest one of them all.

—Every Saturday.

L. CLARKSON.

Household Topics by Ceres.

The Summer Boarders.

Messrs. Editors:

Will you kindly convey my thanks to "Titania" for her encouraging and complimentary reference to such efforts as I have made to lighten and brighten home duties; also for the supplementary suggestion and interesting experience in regard to "summer boarders." The farther compliment of being personally addressed, I am disposed to attribute to the fact of its being so much more inspiring to address one's

self to a listening ear, and such an one as a common interest will secure. I must myself confess to a sensation of vagueness in the attempt to make myself understood, by our most worthy editors, for instance, who can at best hardly be supposed to give heed to such matters as concern our Household Department, simply because, being men, it is all "Greek" to them; whereas we women, appreciating the little things which enter into the make-up of domesticity, are therefore ready to give the smallest of them our attention, and pretty sure of commanding a like attention from the "sisterhood," if we have anything worth the saying.

While I do not venture a direct reply to "Titania's" pleasant departure, I shall hereafter have her in my mind's eye when I say "Mr. Editor," trusting she may discover "dear madam," between the lines; and will consider myself and the "dear public" most favored when I shall have provoked a reply from her gifted pen.

The casual reader will please observe that in our views on the subject of "summer boarders" we do not disagree; any seeming difference of opinion is owing to the fact that "Titania" goes beyond me. While I confine myself to the interest of a farmer's household, of which alone I am competent to speak, her remarks apply to more extended undertakings than are likely to be attempted there. Having "pocketed her pride," she will doubtless confess to her own establishment being entitled to take rank as a "summer boarding-house," and her experience in being educated up to the fact secures for her my deepest sympathy, as well no doubt as that of each one of her audience. The idea of a "club-room" for our use in Baltimore, although last is by no means least in importance among the many valuable ones contained in her letter; it strikes my mind as being practicable, and one which might be of great convenience and advantage to those of us who, more or less frequently, go there for shopping, &c. Light it not be conducted under "grange" auspices, without its privileges being confined to "grangers."

Buying at Wholesale.

There are many disadvantages under which we farmers rest that we might easily overcome if we would only waken to a realizing sense of the injustice we do ourselves by the neglect of them. One of them I have before alluded to, and as long as I have a hearing through these pages or elsewhere, I shall return again and again to the subject. It is that we ought to buy our supplies in sufficient quantities to secure the advantage of wholesale prices, as well as to avoid the petty annoyance and extravagance of frequent errands to the stores. It may be urged that our custom is due to those in our midst. If they serve us on the same terms and with as good an article as we can get for our money elsewhere, I admit it; otherwise, if they cannot maintain themselves in so doing, let them do as we have to: work it out of the soil, or else go where there is a greater demand for their wares. We carry our basket of eggs or one week's surplus of butter to their stores, and most likely we have to take their value (?) out in trade, out of which trade the merchant makes a percentage

which it is ruinous for us to allow. We must either live closely, if we buy at such rates, or else mortgage our farms to pay for it. No! if we have a conscience which requires us to support our home merchants to our own manifest disadvantage, let us wait at least until we can do so without throwing away all chance for getting on a comfortable footing ourselves.

We would find ourselves in a better condition at the end of the year, if, in order to buy at wholesale and for cash, we borrowed money at fair interest, rather than dribbling away what little we can scrape together either of money or produce in paying the profits which the small dealers must get in order to live. It is better they should find other means of living, and that we receive a fair price for our produce and buy at living rates for ourselves. It seems to those who have always accustomed themselves to living that way, that, though having a place near where little everyday wants can be provided, is a great public convenience; but, if deprived of it, they would soon learn to provide in quantities for such wants, and thus save time which it requires to run or send for them, and money that will enable us to live more independently.

There is one article in daily use among us, in which we are most culpably careless, both as to safety and economy, which is the oil we burn for giving us light. In almost every farm-house you will see the array of lamps upon the mantel, well-filled and trimmed, it is true, but they tell their own tale; almost invariably we see in them the various shades of yellow, from the most delicate to the dark stuff that makes one fear a chance ray of sunlight might cause it to explode. We ought all of us to know that there is danger in these; that pure oil is colorless, and the greater the departure from that the greater danger. They suffer themselves to run these risks because it is the best to be had at "the store," and, if they only knew it, they are paying more by the gallon than they would have to pay by the barrel for the very best "Alta Oil." Interested parties will insist that in buying by the barrel we lose more by leakage than we gain in difference of price; and claim that also as an excuse for their extortionate charges. It is not so. I speak with knowledge, having for many years bought my oil by the barrel, and I have no reason to suppose that I lost one gallon out of any one barrel. There may be something due to care taken in selecting the barrel, and when it comes home I always have the hoops driven tighter if there is the least indication of their having been loosened in transportation. I have a good spigot put in, and then it is set up a couple of feet from the ground on a frame made for the purpose in my smoke-house. Of course it is removed from there when there is smoking to be done. I buy the best "Alta," have good light and plenty of it, for very much less than inferior light costs me when I depended on the "store" and my gallon can. I would add, but for the danger that is said to lurk in boasting, that we never had the least approach to accident to my knowledge. Many persons who are aware of the advantage of buying as nearly at first cost as possible, say they cannot afford to do so, because they cannot spare enough

money at one time. These are just the people who cannot afford to do otherwise. The only ones who cannot afford it are those who either for lack of conveniences to keep them, or want of careful hands, cannot take good care of them after they have procured them. Where they are open to theft or wastefulness, the choice of evils would probably be the buying in small quantities as best you can.

Wearing Apparel.

In regard to our wearing apparel, I am persuaded that well-dressed women in the country spend more money for that purpose than correspondingly well-dressed women in the cities as a rule. I dare say this assertion will be generally resented, but it is nevertheless true; some of the reasons why it is so, are seemingly the result of circumstances beyond our control; as, for instance, our want of opportunity to observe the little freaks of fashion which would give us confidence to make or remodel our own garments, instead of paying professionals the enormous prices they have commanded for several years past; while a very large proportion of the handsome dressing of so-called "society people" is the result of the ingenuity and dexterity of those who wear it; and the uninitiated would be astonished to know how often a truly elegant costume is either altogether or in part composed of those which have been on duty before, oftentimes for many successive seasons. We are too, I think, much more disposed to a strict conformity to the dictates of Dame Fashion than our friends in the cities, they giving more attention to the suitable adaptation of their dress to special occasions,—a lesson well worth our heeding.

While our *liege lords* are inclined to look upon such helps as *Harper's Bazar* and others of its class as promoters of extravagance in dress, they are really just the reverse. Ladies of ordinary capabilities, by availing themselves of the instructions contained in them and the patterns they furnish, can hardly fail in making any garment for their own use; and the cost of the subscription is soon met by the economy it enables them to practice. In the matter of shopping I think lies our greatest disadvantage; not being at hand when bargains are offered, and not having the courage to use material on hand, we often pay for the material of our dress as much as our expert city friend would require for a season's outfit. I do not intend any disrespect to our city friends, but rather to call their attention as well as our own to a little weakness of theirs, by which those of us who, because of their familiarity with the ordeal, solicit their kindly offices in our shopping excursions, unwittingly fall into greater expenditure than is really necessary for our purposes.

Among the most expert in such matters, are not a few who do a great deal of *shopping* without much *buying*, and it is rather a treat to them to chaperon a country friend with money and an intention to purchase,—this in a measure compensating the merchant and quieting their own conscience for the ideas they have been pilfering. They intend no unfairness to any one, but might they not frequently help their friend to avoid the outlay by suggesting expe-

dients they would be sure to adopt for themselves, but which, from want of experience, the country friend is not apt to think of.

As there is much fine dressing among people who also think it necessary to economize by doing considerable hard work, would it not be well for them to consider the advisability of rendering themselves efficient in the arts of dress and bonnet-making in order rather to spend their money in saving themselves from the more laborious work? In order, however, to place myself right upon the records, I must say that my own judgment is in favor of very plain dressing, and as little hard work as may be consistent with cleanliness and comfort,—reserving as much time and means as may be from these sources for more intellectual gratification and improvement.

CERES.

Mothers as Doctors.

Apropos to the suggestion of your correspondent "Titania," that Baltimore shall afford her earnest women a club room or some such place of exchange for thought and interest, we are credibly informed that Boston has a mother's club, where the question of how many times a day small children shall be spanked, &c., is gravely discussed. Will you open your columns to similar questions? In matters of gardening they may not be out of place. As an opening contribution we clip the following from an old number of the *Western Farm Journal*. E. T. G

Practical mothers learn much by their experience with the little bodies entrusted to their care. Some of the common-sense facts in the physical culture of these little ones known to the more experienced mothers may not come amiss to those who have had but little care of children. The foundation must be well laid to insure healthy and happy children. The child must be well slept, well aired, well fed, and well bathed. By a thorough understanding and practice of these four simple rules, much of the physical, mental and moral sufferings in life would be avoided by parent as well as child—and a delicate one proportionately—is regularly put to bed about dark in a quiet, well-ventilated, or even cool room, after a supper of plain food, it will naturally awake at daybreak, good-natured, with a keen appetite for a wholesome breakfast. Nutritious, plain food, at regular hours, with no candy or stimulants, and free bathing, help the system to ward off many prevalent children's ailments, and to bear with less danger the few that must necessarily come to the majority of little ones. The child that is just given a little confectionery, or any unsuitable food, then rocked to sleep, should cause no surprise at waking peevish and feverish. It is simply the result of imaginary affection and want of knowledge on the part of the one in charge. It will certainly pay in the end to search diligently for the cause when a little child is proverbially cross.

Children's Teeth.

A set of perfectly sound, clean, regularly formed and placed teeth is in these days a rare sight. One is tempted to ask where is the fortunate individual who has not at sometime or other, if at all, advanced in the journey of life, bowed or needed to bow before the shrine of the dentist? If such an one can be found, as is still occasionally the case, let his past history and antecedents, his personal habits, be inquired into. The public is interested, and has a right to know by what means, in the present state of American society, he attained such remarkable results. We have in these days of progress, organizations, societies and clubs, for bringing about all sorts of moral, mental and physical reforms; why not inaugurate similar bands, whose members should try to remove the stigma of having, as a rule, decayed or artificial teeth at least in early life, which now too generally attaches itself to Americans. "Ah," says some incredulous person, "the dentists would oppose it; we should get no information from them, and they could give it; it would not be for their interest that such a state of affairs should exist." I am not so sure of that; certainly there is no danger of it at present, for the records of dental magazines show an appalling increase in the number of decayed teeth, some twenty millions being yearly extracted, three millions of artificial ones being made and sold, and three tons of pure gold, amounting to nearly three millions of dollars, employed by twelve thousand dentists throughout our country in "fillings." One great cause of the trouble is people do not ordinarily go themselves or take their children to a good dentist until a visit becomes indispensable. Insurance policies on property are not taken out the time the owners see the first curl of smoke or blaze of conflagration. Very few companies would think of insuring buildings so threatened, but is not this the plan generally pursued in reference to teeth? Very few parents or guardians know much of their structure, of the peculiar surroundings necessary to their proper growth, development or well-being, yet how rarely do they seek information, advice or help from those who have almost hourly experience. In some mining regions it is customary to pay a physician so much yearly during health, with the agreement that in case of illness it is the doctor's duty to minister freely to the needs of the patient. The plan has this serious objection: it is not always possible to make people to preserve their health as far as lies in their power. But an intelligent and conscientious parent should earnestly wish to do everything for a child's good that is in his power, and for this purpose should seek competent advice. In talking with a skillful Baltimore dentist, Dr. Emory Scott, of whom I learned through the *Farmer*, I asked if it were common for mothers to bring their little ones early to be examined by a dentist. "I am sorry to say," was the answer, "it is not. Parents often have no idea how future misery, loss of teeth, time and expense could be saved if a dentist were consulted during those years when the first and second sets are forming. In those years, from sheer neglect, mischief

is often done which is irreparable." I had taken my two little boys, (one seven, the other eight,) that morning for the first time to have their teeth examined since their babyhood, not because they complained of any trouble, or I had any reason to suppose there was, and I came away sad and thoughtful, for after devoting myself to the physical care of my boys as few do, I found I should have gone earlier—should have known more. Perhaps some of the lessons I have thus learned from experience may benefit others. First, I would say do not neglect your child's first or temporary teeth, twenty in number, usually completed when children are in their second year. Keep them clean, and do not allow yourself to think, because they are only temporary, they do not require much care. For they have an influence on the character of the permanent set, and the latter will never be replaced through life.

JANE B. M. BRISTOL.

Profit in Agriculture.

Messrs. Editors American Farmer:

Men should write whereof they know. Much is written that is true and indisputable; also many lectures are read or spoken that are applauded: they tickle the fancy and are assented to by the understanding. Now and then a good essay is written on agriculture—preached and practiced on. Much has been made, and it is wondered why farmers and others do not grow rich in the ratio of their practice and the time they have plied their vocations. Some lay it to their particular business and say it won't pay. As a general thing there are failures in farming as well as in other things. Many say merchandising and kindred pursuits obtain better profits; they may in many instances, but not always. But there is more hazard in them and more failures. Failures in farming are not so numerous as in merchandising: you never hear of 95 per cent. failing among farmers.

There are certain rules and practices in farming that are pretty sure to prove successful. I don't pretend that farming is lucrative in all cases and at all times. Seasons are not uniform, and there are disasters every now and then marring the profits. In merchandising there are ends and remnants, changes in fashions and the credit system, all of which are fruitful in losses. If a farmer attends to his business, and makes it his sole occupation, he is not apt to speculate. By the time the year runs around he has garnered and sold the principal part of his productions. He so arranges his matters as to have everything ready for the seasons as they arrive. If he has cattle, sheep, &c., he has them all attended to as to their wants and housed from the tempestuous weather. He consults the papers, magazines and books in order that he may be well posted. Butter, eggs and poultry should be well handled and marketed, and the garden to serve as a feeder of the table and the surplus given to the various stock.

As man is prone to extravagance and waste, and following fashions in themselves ridiculous and unseemly, in many cases they would be

more honored in the breach than the observance of them. All callings are links in the great chain of wealth, honor and usefulness; of course there are exceptions to all general rules, and there is no standard in taste: so people might be left to their good sense and discretion. Extravagance if encouraged will terminate in poverty.

A great remedy to many evils is economy; wherever there is a wrong there is a remedy; and what is wrong is unseemly. By economy I don't mean penuriousness. The distinguishing feature of thrift is a knowledge of the real wants and necessities of life: here is the fundamental principle that underlies the paths of progress. If not successful and saving, the work of a man's life terminates in a cypher, and its course is downward. Lay up the pennies and they will amount to pounds. With them may be bought comfort; they attain to wealth, which creates power to do good and to ease the road to the end of life. A man that amasses is able to lie at ease and to assist in private or public enterprises. The sublime sometimes falls into the ridiculous: "ere you consult your fancy consult your purse." See that you keep in the path that has been trodden by the prudent and industrious, who are often the men willing to help with their means where it will do the most good.

My aim in this is to say to the thoughtless and wasteful: see the impropriety of idleness and prodigality. I disclaim any wish to hurt the unfortunate or disabled. Many a poor man is happy because he is intelligent and philanthropic. Shakespeare says:

"All the world's a stage
And all the men and women merely players:
They have their exits and their entrances:
And one man in his time plays many parts."

Agriculture holds the vantage ground among the various pursuits of man, or at least is as useful and honorable as any other.

"Honor and shame from no condition rise:
Act well your part, there all the glory lies."

West Virginia.

C.

Fine Asparagus.

Mr. Thos. B. Todd, of North Point, sent us in the latter days of May a very fine sample of Conover's Colossal, cut from one-year plants set out in the Spring of 1878, and which we thought the finest we had ever seen; but Mr. John Jones, of the same location, brought in some other specimens, which left the other lot, and indeed all others, far in the shade. Some of the stalks measured nearly an inch across, and all were exceedingly tender and well flavored.

PUBLIC DEDICATION OF A GRANGE HALL.—Wye Grange, of Queen Anne's County, Md., will formally dedicate its new hall at Wye Mills, on Thursday, June 12th.

The American Farmer.

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Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

BALTIMORE, JUNE 1, 1879.

Subscription Bills.

Our thanks are due our friends who have promptly responded to the request made for attention to these, inclosed in our May No. To such as have not already done so, we repeat the suggestion that the amounts to individuals are small, but that the total to us is considerable enough to make it desirable for us to have it in hand as soon as their convenience may allow.

The Peach Crop.

The latest information we have of the prospects of the peach crop may be gathered from the following extracts from our correspondence, both of date May 30:

A correspondent in Kent Co. writes: "At present we have a full half crop of peaches in our county; in a great many orchards near me there is a full crop. I have all I want, also E. M. Wilkins, Loud, Groves and others. The Kent Co. Agricultural Association appointed a committee to examine and report; saw one of them on Wednesday, they will report a full half crop, which is as many as we can manage."

R. S. E.

From Caroline we have the following: "No rot in peaches in this vicinity, though the crop will not be so large as we predicted by many weeks back. A great many have fallen from the trees, and a great many more have suspended growth, the falling of which is beyond question; hence the unprecedented large crop for 1879 is no longer a matter of promise."

Mowing Machines at the Centennial.

We have compared the table, given elsewhere, of the comparative drafts of the several mowing machines exhibited at the Centennial trial in 1876 with that published officially in the general report of the judges of group XXIII, which included agricultural machines, implements of agriculture, horticulture and gardening, and find the same agrees with the figures therein given. The judges at this trial were eminent men, experts in their line, and the results given are interesting and valuable. It is unnecessary to add that, as the table shows, they were on this trial very favorable to the Champion machines.

Japan Persimmons.

Mr. John Saul, of Washington, in a lot of other nice things which he was thoughtful enough to send for the adornment of our garden and little greenhouse, included a tree each of three varieties of this fruit, of which a good deal of late has been written. We have not been disposed to believe it is the "coming" fruit of this country, nor to take for granted all that is reported of its perfect hardiness. These trees received we have planted out, and may report their fate, and Mr. Saul has our thanks for the opportunity he gives us of testing them.

We call special notice to the advertisement in this issue of the American Veterinary College of New York, the only institution of the kind, as we believe, now in operation in the United States. Dr. Liautard, who is at its head, is an eminent practitioner and author; and the increased attention which is being, and properly, paid to education in veterinary art, may well induce some of our young men to prepare themselves for a career of usefulness, and one which is more appreciated now than was the case formerly.

THE AMERICAN ASSOCIATION OF NURSERYMEN, FLORISTS, SEEDSMEN, &c., will hold its fourth annual meeting at Cleveland, Ohio, on the 18th instant. All who are interested in the welfare of the nursery trade are invited to be present.

Removal.

Messrs. L. H. Lee & Bro., general agents for the Champion Mowing and Reaping Machines, have removed from their old quarters on Light street to the elegant and commodious warehouse on the N. E. corner of Sharp and Lombard streets.

Ensilage.

This process of preserving green corn-fodder, by trenching, was first brought to the attention of the agriculturists of this country in the valuable letters of the Paris correspondent of the *American Farmer*; and so well assured were we of its great value, especially to our growing dairy interests, that we sent for a copy of the pamphlet issued by its introducer, (M. Goffart,) which, through the kindness of our late much-lamented friend, Dr. Briggs, of Nansemond, Va., was translated and published in our pages several years ago. It will be seen by the remarks of the same correspondent in his letters, given in this and recent numbers, that this system is being applied to other products, and the expectation is now entertained that it will be found advantageous to extend the supply of forage obtained from this source throughout the year. Since the first introduction of this process the expense of masonry, as then adopted for the pits, is being done away with, and a simpler and much cheaper plan is being adopted, which will be found described by our correspondent in his letter.

Mr. Morris, whose farm is near Ellicott City, and whose attention was drawn to the subject by the notices given in this journal, was, we believe, the first in this country to put in practice the plan of Mr. Goffart, and, in a visit to his farm about two years ago, we were shown the process adopted by him, which he had found to be a complete success. Since then others have tried it, and one gentleman in Baltimore county has so far succeeded in his efforts that he has determined to largely increase the area of the cultivation of corn for preservation; and a number of others are experimenting in the same direction.

Wolf, the eminent German chemist, whose analyses of vegetable productions are esteemed of the most reliable character, shows the results in the following table, the organic substances digestible of several of those esteemed as fodder material, their composition, digestibility and money value.

VARIETIES.	Albuminoids.	Carbohydrates.	Fats.	Nutritive ratio.	Money value per cwt.
Green corn fodder (old).....	0.6	8.3	0.2	11.4	0.09
Green do. do. (younger).....	0.9	7.6	0.1	14.4	0.11
Sugar beets.....	1.0	16.7	0.1	17.0	0.19
Turnips.....	1.1	6.1	0.1	5.8	0.10

Received.

From H. C. Watts & Co., Phila., through Goodman & Lewis, 37 N. Calvert street, Baltimore, general agents for the South, *THE DISEASES OF LIVE STOCK AND THEIR MOST EFFICIENT REMEDIES*. By Lloyd V. Teller, M. D. The author says he is not a veterinarian, but claims special qualifications for preparing the work. Brought up on a farm, practicing medicine in a rural locality, and, like many country doctors, often consulted about the diseases of domestic animals, he has bought and read the best books on the subject. He has made full use of the works of the most eminent British and American writers, and gives full space to the treatment of the diseases of all kinds of farm stock. The remedies proposed are such as are to be found in most towns and villages, and the work is one which we can safely recommend to our readers.

From L. Prang & Co., Boston, through A. DeKato, 284 South street, Baltimore, we have parts 21, 22, 23 and 24 of Meehan's *NATIVE FLOWERS AND FERNS OF THE UNITED STATES*. These numbers complete the second volume, and some of the subjects selected for illustration are among the brightest of our flora, whilst all are inherently interesting and made the more so by the life-like plates and the attractive pen of the author.

Maryland County Fairs.

WASHINGTON CO. AGRICULTURAL SOCIETY will hold its next Fair on the 21st, 22d, 23d and 24th days of October next, at Hagerstown.

THE WESTERN MARYLAND SOCIETY will hold its annual show at Cumberland, October 7, 8, 9 and 10.

CROP PROSPECTS IN WORCESTER CO., MD.—

An unusually severe winter, with but little snow and not much rain, with continual freezing and surface-thawing, the solid-frozen earth underneath holding all the moisture and rainfall upon its surface like a metallic basin; with a remarkably dry spring and no rainfall in and during the whole of May,—one sad, odious and despicable word—failure—expresses the almost entire condition of the wheat crop in this county. And after all is said, as to the worst of winters and driest of springs, more, much more, is due to not being in time, to *too late sowing*, than all the war of the elements.

Oats, manured, are promising; unmanured, save in good land, worthless. Potatoes cannot hold out much longer, and all truck is at a standstill, if not perishing, and all pasture lands in use look like they had passed through a summer solstice. The oldest inhabitants say that they have never witnessed such a month of May.

G. H.

THE FIRST SHIPMENT OF LIVE SHEEP from the port of Baltimore to Liverpool, England, was made by the steamer *Chilian* on May 31. The sheep, numbering about 650 head, came from Chicago via the B. & O. R. R., and were in fine condition.

Notes on Fruit Culture.

Mr. Wm. Saunders, of the U. S. Department of Agriculture, a good authority on pomological topics, read a paper at a recent meeting of the Potomac Fruit-Growers' Association, from which we take the following:

THE GOOSEBERRY.

The European gooseberry, *Ribes Grossularia*, is a native of cool, northern climates. It has small, smooth, or hairy fruit. From this species the large cultivated sorts have been obtained, familiarly known here as English gooseberries. This species and its varieties reach their best perfection in cool, moist climates, consequently in this country, at least in the Middle and Southern States, it is too warm and dry for their healthy growth, although in the North and Northwestern States they find an atmosphere better suited to their requirements. The effect of aridity is exhibited in a fungus development which appears on the young fruits, and which arrests their future growth; the skin of the fruit becomes corroded, and cracks open, which leads to decay. The leaves of the plant are also similarly attacked, and, dropping prematurely, the young shoots remain green and immature until frost occurs, which destroy the succulent branches, and the plant ultimately dies from these causes.

It is evident that all expedients to success in the culture of the plant must in some way tend to guard them against dryness. In positions somewhat shaded from the sun, and sheltered from drying winds, particularly when the plants are young, a fair measure of success will sometimes be secured. A heavy mulching of litter, sprinkling the ground with salt, or allowing tall grass to grow around and among the branches, are expedients sometimes adopted with more or less success, but in the end the adverse climatic conditions ultimately overcome all attempts to maintain permanent vigor. And yet we may read in almost any rural paper that all that is required is proper care and proper pruning, that failures occur by not thinning out the branches, and so forth. These precepts are but the parrot-like repetitions of advice gleaned from foreign sources, and unmistakably show that the preacher does not derive his knowledge from his practice.

Our native species of gooseberry, *Ribes hirtellum*, is a native of the Northern and Western States. It produces small clusters of reddish berries, which are pleasant, although rather insipid in flavor. Improved varieties, having larger and better flavored fruits, are in cultivation; these are the berries which we find in our markets. Being natives, they are consequently fitted to the climate, and the plants are not attacked by the calamities which destroy the foreign sorts. There is plenty of room here for the hybridist and experimenter, and doubtless in time larger and better fruits will be produced in the varieties of this species.

THE RASPBERRY.

Turning to the raspberry we are again confronted with varieties from two species, which behave very differently. The European varie-

ties, which produce large and finely flavored fruits are descended from a species that is found in northern temperate regions, that prefers moist to dry soils, and shady woods rather than sunny slopes. These varieties, so hardy that they will withstand Canadian winters, we find to be so delicate and tender as to be killed by Virginia frosts. In this we again see the effect which a hot, dry climate produces upon plants that are at home in moist and comparatively cool regions, and again we note that the active cause of destruction is parasitical fungi upon the foliage, and the predisposing cause is want of moisture.

We know that some of our associates in this society are eminently successful in the production of the best varieties of this species, and they have told us how this success is secured. Our scorching bright sun and drying summer breezes produce an extent of evaporation of moisture from the leaves which the roots are unable to supply, mildew blights them and they fall prematurely, leaving green unripened stems which shrivel and die at the touch of even a slight degree of frost. The remedy is evident, and that is to maintain a sufficiency of moisture in the soil so that the roots may be able to supply the demand of the leaves, and this is secured by covering the soil in early summer with a coating of forest leaves or strawy manure, or by irrigation where practicable, and even then the judicious cultivator will supplement this summer treatment in further efforts, by means of winter protection, to modify the injurious effects of severe cold. In this genus of plants we have also our native species. These are designated as hardy varieties. The fruits of these are more watery, and not so highly flavored as the foreign kinds, but they are in the way of reaching further excellence. I allude now to such varieties as the Philadelphia and the Brandywine, very hardy, very productive, but lacking in consistency and flavor, qualities which undoubtedly can be secured by the selection of the best varieties produced from carefully selected seed.

STRAWBERRIES.

There has been a marked improvement in the quality of this fruit of late years. This was particularly noticeable in our Washington markets last year, both in regard to varieties and the perfection of their culture, satisfactory alike to the purchaser and to the producer.

The main points involved in the successful culture of this fruit, as recognized by our best cultivators are the following:

1st. Prepare the ground by deep ploughing and subsoiling, apply a dressing of rotted manure equal to twenty cords per acre, spread over the ground and mix with the surface soil by repeated and thorough disintegration with the harrow. The best crops are produced on strong, loamy soils, and if somewhat clayey all the better, provided it is drained.

2d. Give the plants plenty of space, the rows should not be less than thirty inches apart, and the plants about half that distance between each other in the rows.

3. Remove all runners as they appear, and keep the surface well pulverized and clean during summer, after the crop has been gathered, in old plantations.

DRAFT OF REAPERS AND MOWERS.

Taken from Official Report on Group 23, International Exhibition, Philadelphia.

The question, which Mower or Reaper is the lightest draft? is a question of great interest to farmers. To settle the matter definitely and by reliable authority, we give below the draft of the principal machines contesting, from the report of the judges (five American and five foreign) of the great Reaper and Mower trial that took place near Philadelphia, under the auspices of the Centennial Commission. At that trial there were twenty different machines tested by the dynamometer. As several of the manufacturers of the machines there tested have since failed and gone into bankruptcy, we quote the draft only of such machines as are made now, and in quantity sufficient to entitle them to notice.

EXHIBITOR.	Distance Run.	Height of cut.	Width of cut.	Total Draft.	Draft per Square Foot of Grass cut.	NAME OF MACHINE.
	Feet.	Inches.	Feet. Inch.	Pounds.		
Warder, Mitchell & Co.....	100	1½	3 9½	181	.343	Champion.
C. W. Otis, Haymaker.....	100	1½	4 3	165	.388	New Champion.
Adriance, Platt & Co.....	100	1½	4 3	200	.470	Buckeye.
C. Aultman & Co.....	100	1½	4 4½	178	.406	Buckeye.
Aultman, Miller & Co.....	100	1½	4 0	171	.437	Buckeye.
Johnston & Co.....	100	1½	4 2½	204	.484	Johnston.
Osborne & Co.....	100	1½	4 7½	290	.564	Wheeler or Kirby.
Osborne & Co.....	100	1½	4 3½	220	.510	Wheeler or Kirby.
Osborne & Co.....	110	1½	4 11½	338	.471	Wheeler or Kirby.
McCormick.....	100	1½	4 0½	190	.467	McCormick.
Walter A. Wood.....	100	1½	4 4	222½	.513	Wood.

It will be seen from the above that where the Champion draft was .343, that the Osborne machine, in cutting the same quantity, would draw .564; Buckeye .427; Johnston .484; McCormick .467; Adriance .470 and Wood .513.

JUDGES.

American.—John P. Reynolds, Chicago, Ills.; James S. Grinnell, Greenfield, Mass.; James Bruce, Corvallis, Oregon. *Foreign.*—John Coleman, Great Britain; Fermin Rosillo, Spain; Pedro D.G. Pass Leme, Brazil. Ekeda Kenzo, E. Oldendorff, John Bradford, assigned from Group IV, and Geo. E. Waring, Jr., from Group XXVI.

Baltimore Markets—May 31.

Breadstuffs.—*Flour.*—Little business doing, but market firm in tone and tendency favorable to sellers. We quote: Howard Street Super \$3.25@3.75; do. do. Extra \$4.25@4.85; do. do. Family \$5@5.75; Western Super \$3.25@3.75; do. Extra \$4.25@4.75; do. Family \$5@5.75; City Mills Super \$3.25@4; do. do. Extra \$4.50@5; do. do. Rio brands Extra \$6@6.25; Spring Wheat Family \$4.25@5; Minnesota patent \$6.75@7.50; Fancy brands \$7.75@8.75; Fine \$2.75@3; Rye Flour \$3.25; Corn Meal, City Mills \$7 brl. \$3.55; do. City Mills \$7 100 lbs. \$1@1.05; do. Western \$7 100 lbs. 95 cts.; Western Corn Chop 80@85 cts.

Wheat.—Southern is in demand. In Western, prices are barely maintained. We quote: Southern Fultz \$1.12 @1.15; do. long-berry \$1.17@1.18; Pennsylvania No. 2 red, spot, \$1.17½; Western, No. 2 red, spot, \$1.15½; do. do. June delivery \$1.13@1.13½; do. do. July delivery \$1.12@1.12½; do. do. August delivery \$1.09@1.09½; do. do. September delivery \$1.06.

Corn.—Southern steady and firm for white and yellow. Western steady in price and active. We quote: Southern white 51; do. yellow 45; Western steamer, spot 42½; do. mixed spot 43½; do. do. June delivery 43@43½; do. do. July do. 43½@43½; do. do. August do 44½.

Oats.—Are scarce, firm and wanted at higher prices. We quote: Western mixed 34@36; do. white 37; Southern 37@40.

Rye.—Steady and firm. We quote good to prime at 60@61 cts. \$ bus.

Hay and Straw.—Hay is dull, but Straw is steady. We quote: Choice Cecil County Timothy \$14; Fair to prime Md. and Pa. Timothy \$12@13; Mixed Hay \$10@12; Clover do. \$8@9; Wheat Straw \$7; Oat do. \$3; Rye do. \$10@11.

Provisions.—Quiet and heavy. We quote jobbing prices as follows: Bulk Shoulders, packed, new 4½ cents; do. L. C. Sides, packed, new 5½ cents; do. C. R. Sides, packed, new, 5½ cents; Bacon Shoulders, new, 4½; do. C. R. Sides, new, 6 cents; Hams, Sugar-cured, new, 9½@11 cents; do. Shoulders, do., 6 cents; do. Breasts 6½ cents; Lard, Refined, Hercules, 7 cents; Mess Pork, new, \$7 brl., \$10.75.

Butter.—Dull and heavy in face of large receipts. We quote New York prime to choice fresh 13@16 cents; Western tubs good to choice 10@14 cents; nearby stock 8@10 cents. *Cheese.*—Dull. New York State, fair to choice, 7@8½ cents; Western, good to choice, 6@7½ cents. *Eggs.*—Active at 12@12½ cents for fresh. *Poultry.*—Young Chickens \$4@4.50 \$ dozen; Old do. \$3@3.50.

Live Stock.—*Beef Cattle.*—Best on sale \$5½ cents; that generally rated first quality 3½@4½ cents; ordinary thin steers, oxen and cows 3@3½ cents. *Swine.*—Quotations range from 4½@5½ cents, with a few choice shade higher. *Sheep and Lambs.*—We quote sheep at 3½@4½ cents, and lambs at 4½@6 cents, with tendency downwards.

Produce.—Prices are as follows for the articles named, viz: Apples—New York State, \$ brl. \$2.75@3; Beans—New York Medium, \$ bus., \$1.45@1.50; Peas, black-eye, \$ bus., \$1.15@1.18; Peas, Western green, \$ bus., \$1.70@1.75; Potatoes, old, \$ bus., \$1; do. new, \$ brl., \$4@6; Onions, \$ brl., \$1.40@1.60; Beeswax, \$ lb., 30@35 cents; Ginseng, \$ lb., 90@95 cents; Seneca Root, \$ lb., 35@38 cents; Virginia Snake, \$ lb., 10@12 cents; Feathers, \$ lb., 28@30 cents; Hides—dry country, \$ lb., 13@15 cents; Tallow—country, \$ lb., 6@7 cents; Broom Corn, \$ lb., 3½@4½ cents; Sheep's Pelts, each, 50@\$1.

Cotton.—Quiet, the stock here being held firm. We quote prices nominal as follows: Middling at 18@13½; Low Middling 12½@12½ cents; Strict Good Ordinary 12½ @12½ cents, and Good Ordinary 12½@12½ cents.

Wool.—Unwashed, coarse \$ lb., 26@30; do. fine \$ lb., 24@26; tubwashed, coarse \$ lb., 32@35; do. fine \$ lb., 30 @34; fleece-washed, 28@30.

Tobacco.—Receipts are large, and the market for Maryland more active, the tone of the market being strong, with anticipations of increased activity when the awards for France are made early in this month. We quote: Maryland, inferior and frosted, \$1.50@2.00; sound common \$2.50@3.00; good common \$3.50@5.00; middling \$6.00@8.00; good to fine red \$3.50@10.00; fancy \$1 @15; Virginia, common and good lugs, \$3.00@5.50; common to medium leaf \$6.00@8.00; fair to good leaf \$8.00@10.00; selections \$12.00@16.00.

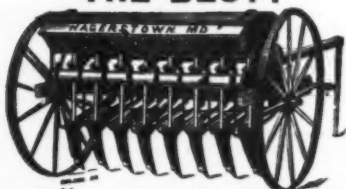
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CLARKE'S SAFETY WALLET, fitted, with buckle and strap, to form front part of the suspender; will carry coin, bank bills, checks, &c. *Absolutely safe from pickpockets!* It will also carry the watch when the vest is laid off in hot weather. Price 60 cts. each; \$1 per pair, prepaid by mail. Salesmen wanted. Address G. S. Clarke, Leonardsville, N. Y.

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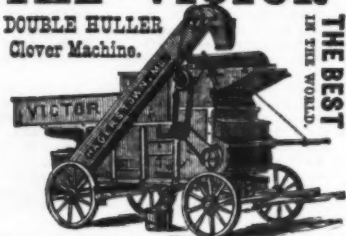


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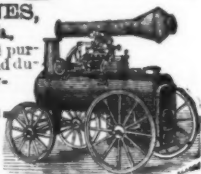
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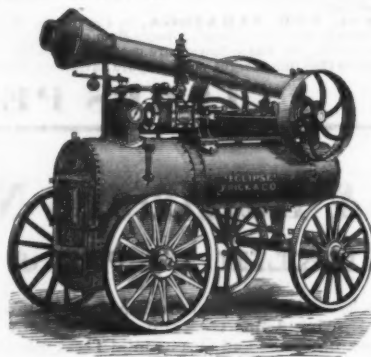
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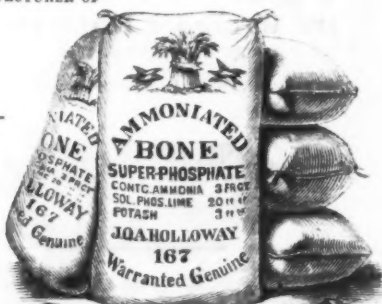
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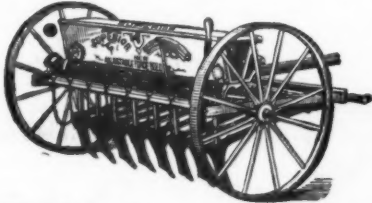
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It pulverizes deeply, and its smoothing capacity is equal to any Harrow I have ever tried.

It stands unrivaled for destroying the toughest sods with its knife-like teeth, perfectly reducing the sod with two harrowings, presenting a thorough seed-bed for any kind of grain or seed.

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It is equal to the Thomas Harrow in lightness of draft, while it possesses decided advantages over the Thomas in DEEP PULVERIZATION, STRENGTH AND DURABILITY.

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J. D. GUTHRIE.

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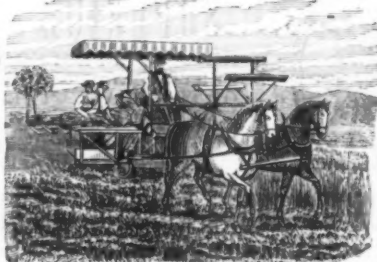
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It has stood the test of time of 37 years in England, Ireland, Scotland, France and Germany, and pronounced the best Food for maintaining the Health of all Horses, Cows, Sheep, Hogs and Poultry ever known in the world; and, upon trial, it will exalt its own merits. **AND EVERY PACKAGE IS GUARANTEED TO CONSUMERS.** It is the third of the cost of all Condition Powders, and contains nothing in it but what any BEAST can take inwardly, without a particle of Danger or Injury. A sure cure for ailments arising from the Stomach. **PACKED IN 6-LB. BOXES. PRICE \$1.00. FOR SALE BY ALL DRUGGISTS AND FEED DEALERS.**

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Very respectfully, **JOHN HOOD,** Stable Manager Ad. Ex. Co.

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No Horse will die of COLIC, BOTS or LUNG FEVER, if Foutz's Powders are used in time.

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Containing 150 acres; about 25 to 30 acres in thriving timber, principally oak and chestnut; it is well watered and admirably adapted to a dairy or market farm; the soil is very kind and susceptible of the highest improvement; it is now principally set in grass. It is at the 15-mile stone on the York turnpike, fronting on both sides of the road, and five stations on the Northern Central R. R. can be reached at distances of 1 to 3 miles, by good county roads. This is the circle of the members of the Gunpowder Club, and is undoubtedly one of the best locations in the county. Churches, of all denominations, and schools, public and private, are convenient. The York turnpike is one of the very best, and the distance from the city permits a round-trip a day, for wagoning. Probably no healthier spot in the world can be found. It is laid off in fields of 12 to 15 acres, to most of which easy access is had to water for stock. The dwelling, which is commodious, and large barn, are of stone, with other out-houses, though old, yet can be made very comfortable at a reasonable expense; and there are several admirable sites for residences on the premises. This property could be advantageously divided into small lots and sold at a very great advance on the price asked for the whole. Lots on the road have brought as high as \$500 an acre, and the extent of the frontage on the turnpike, in the hands of an enterprising man, could be turned to excellent account, but the present owner is indisposed to take the trouble requisite to accomplish this, and would prefer selling the whole together. A gentleman with a very small income independent of the farm, could live on this place without labor, saving the rent of a city residence, by renting the fields on shares to be farmed under his control, reserving a garden and stabling, and the pasturage necessary for his stock. A small tenant's house on the premises would rent for the amount of taxes on the place. As I cannot occupy the place myself, I am willing to sell it on the most reasonable terms, or exchange it for city property in a good locality. For further particulars apply to the subscriber, at office of *American Farmer*, or 268 Linden Avenue, Baltimore. **SAML. SANDS.**

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Because it combines more desirable points than other Reapers. As a **Mower** it is perfection itself. **Price for Combined Harvester \$145**—delivered at any point in Baltimore. We append a certificate of one used the past harvest in this vicinity:

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Respectfully,

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Yours truly,

J. M. WISTAR, M. D.

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ACIDULATED SOUTH CAROLINA and NAVASSA PHOSPHATES

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